Architecture Culture 1943–1968

A Documentary Anthology

Joan Ockman
with the collaboration of Edward Eigen

Columbia University
Graduate School of Architecture Planning and Preservation

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Frank Lloyd Wright
Bruno Zevi and others

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As flowers turn toward the sun, by dint of a secret heliotropism the past strives toward that sun which is rising in the sky of history.

—Walter Benjamin, *Theses on the Philosophy of History*, 1940

List of Documents

Columbia's commitment to the documentation and reassessment of twentieth-century architecture, and especially its development over the last half century, goes well beyond being a desirable scholarly activity within the walls of a major university.

Throughout its long history, architecture has displayed an unusual fascination for the interplay between words and images, manifestos and actual buildings. From Vitruvius to Alberti to Le Corbusier to the present, the history of architecture is as much the history of its writings as of its buildings. Almost never can architecture be separated from the ideological context in which it was produced.

The following anthology aims to examine the relationship between historical documents and the culture in which they were first introduced. It also aims to relate these texts with an ongoing and very contemporary discourse that calls into question the boundaries between theory and practice. New interest in the idea of a theoretical practice for architects—that is, a practice grounded in theory—makes this book a very timely proposition, as many of the questions being raised today can be directed to the architecture of the recent past. Do architectural texts belong to the realm of objectivity, similar to scientific theorems whose validity can be demonstrated by actual buildings? Or do they on the contrary belong to the realm of poetic gestures and programmatic statements motivated by partisan interests? Are texts—and all theory—essentially descriptive or prescriptive?

Today, participating in an unprecedented exchange of ideas between disciplines—the arts, philosophy, literary criticism—current writings in architectural theory tend to differ significantly from the texts produced up to 1968. Paradoxically, the radical questioning that accompanied the *événements* of '68 made possible a concept of architecture as "theoretical project," as a critical project not so much aiming to be a model for future practice as meant to remain *theoretical*. In contrast, the underlying ideological stance of most written work produced by the generation active in the quarter century that followed the war more characteristically yearned toward responsible ways and means to correct the ills of society.

This is not the place to oppose generations. On the contrary, this anthology of documents and their careful *mise-en-contexte* by Joan Ockman should prove one point: that for the last half century, it has been impossible to be an architect without simultaneously acting as a critic, without thinking about the critical function of one's activity. The critical value of this publication within the overall pedagogical program of architecture thus cannot be underestimated. It is our hope that beyond serving as a key reader and companion for those concerned with issues of history and theory, it may ultimately suggest modes of articulating theory and criticism with reality, in order to achieve the transformation of that reality.

Bernard Tschumi

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J.O.

1943—a year with nothing special about it, situated perhaps at the point of inflection between the sum of the errors made and the dawn of a new start.[1]

The years delimited by this book appear at once close and distant. Part of the lived experience of the generation currently dominating the senior ranks of the profession and schools, they span a period that has only recently come into critical focus. With the passage of the last quarter century, it is now possible to view with some clarity the developments that followed the "heroic" epoch of modern architecture. The present selection of writings aims to broaden this knowledge and to illuminate the role of ideology in architecture's evolution since the Second World War. It has been culled from a great variety of sources, reflecting the diversity of the field and the proliferation of published material. Limited to the literary record, it must necessarily be read in context of the contemporary buildings and projects.

"Architecture culture" underwent a significant transition during these years. In retrospect, they may be said to constitute the interregnum between modernism and what is now called postmodernism. Modernist architecture became dominant while being subjected to increasingly intense questioning. The traumatic events that marked the end of the war—the revelation of genocide on a previously unfathomable scale of organization and brutality, and the advent of atomic warfare—could only engender a profound crisis in rationalist thought. An ethos of progress predicated on functional determination and technical advancement offered, as many architects realized, no guarantees as far as humane values were concerned. Even as standardized building, scientific planning, and development of new technologies accelerated after the war in the context of reconstruction and rehousing, continuing the positivist orientation, prewar doctrine began to be revised along some of the following lines:

1. a reconciliation and integration of functionalism with more humanistic concerns: symbolic representation, organicism, aesthetic expressiveness, contextual relationships, and social, anthropological, and psychological subject matter;
2. a recovery of premodernist and antimodernist themes—above all, history, and with it, monumentality, the picturesque, popular culture, regional traditions, antirationalist tendencies, decoration, etc.—within a perspective of "evolution";
3. a replacement of functionalism by other theories like structuralism, semiology, and sociology as new bases for a "scientific" determination of form;
4. neo-avant-gardism: a reassertion of the critical or radical side of modernism, but in a more ironic and dystopian context;
5. an outright rejection of modernist ideology as fatally linked to the ills of urban development and modernization, and recourse to politics or (conversely) aestheticism and autonomy.

This cultural critique was bound up with the ongoing trajectory of modernization. The mobility afforded by mass availability of automobile and air transport, the globalization of information and communications, and demographic and territorial shifts produced major changes in contemporary life. Primary among these was the rapid growth of the residential suburb, especially in the United States. On the global scale, postwar

geopolitical reconfigurations inflected not only ideological positions but long-range planning strategies. The war also catalyzed a second industrial revolution, bringing to the construction site a new array of synthetic materials—plastics, resins, fibers—and putting in place the infrastructure for electronic and cybernetic technology.

Crisis or continuity?

We begin in the middle of things, at the turning point of the Second World War. As historic capitals and cultural centers were being devastated in Europe and parts of Asia, pawns in a strategic and tactical game of aerial warfare, the first Liberty ships were being launched from the United States. Major victories in Italy, North Africa, Russia, and the Pacific and the decisive mobilization of American technical capability successively shifted the balance in favor of the Allied armies.

"Architecture" was hardly of primary consideration in 1943 amid a cataclysmic world picture. Yet many architects around the world, if not militarily engaged, were already employed in drawing up plans for the postwar rehabilitation of cities, towns, and villages. Those charged with the program of reconstruction had not only to address the urgent needs of rehousing and rebuilding, but also to project a vision of postwar society. On the one hand, the war had proven the potency of coordinated functional planning and industrialized production, confirming modernist ideology. In a pictorial essay entitled "Design for War," the editors of *Architectural Forum* wrote,

After many decades of functionalist preaching, this century is today producing functionally designed objects for the first time on a tremendous scale. In other words, in an extreme emergency we turn unquestioning to functional design. It is important to note that these products of ingenuity, economy, and utmost exploitation of limited materials have quite unconsciously become the most satisfying designs of our machine civilization.[2]

Yet the massive destruction of human life and the built fabric through this formidable instrumentality provided a more cautionary and ambivalent lesson.

The issue, as it now appeared to planners, was how to convert the vast war machine to the needs of peace. The *Athens Charter*, the official codification of functionalist urbanism, was published in German-occupied France in 1943, a decade after the fourth congress of the Congrès Internationaux d'Architecture Moderne (CIAM) drew it up. Appearing under the imprint of the French CIAM group, it had been edited by Le Corbusier anonymously in 1941—for fear of antagonizing the fascist caretakers in Vichy, who were to spurn his grand urban schemes a year later—and contained an introduction by the playwright and urbanist Jean Giraudoux. The latter heralded, with a trepidation unknown to those who drafted the charter in 1933, "the threshold of this new age."[3] Le Corbusier for his part reflected that the current mobilization, wresting the French economy from its previous stagnation, would be the war's major positive outcome. As he stated in *Sur les quatre routes*, also published during the war years,

In wartime the farsighted have realized immense possibilities in an alliance between the planners and industry. The war itself has bequeathed to the country a working plant. A quantity of the elements of housing can be produced in factories: dry assembly; the prefabricated house. Provision of housing will become the largest, the most urgent, the most fruitful item of the industrial program.[4]

In America the potential of transforming wartime production to meet the desperate need for housing was immediately grasped by Buckminster Fuller, among others. Before the war's end he turned his energies to persuading a Kansas aircraft manufacturer to retool its factory for the fabrication of low-cost metal houses. By 1946 his "Dymaxion" prototype was readied and exhibited to an enthusiastic public. Yet already a strong countercurrent was in motion. "Let Bucky Fuller put together the dymaxion dwellings of the people so long as we architects can design their tombs and monuments," as Philip Johnson—having in 1932 been the emissary of European modernism in America—was to put it. Johnson's remark, an ironic commentary on a statement made by Adolf Loos half a century earlier, reflected a widespread desire that emerged during the war years and became an ongoing debate of the period: for a "new monumentality."[5]

In 1943 Sigfried Giedion, José Luis Sert, and Fernand Léger, all taking refuge from the war in New York City, jointly wrote a paper entitled "Nine Points on Monumentality." In it they voiced the desire to invest modern architecture with new means of collective expression. Despite its traditional association with authoritarian regimes, they argued, monumentality was not incompatible with democracy. It was, instead, a "true expression" of the human spirit, capable of being conveyed in a language of modern forms and materials. Their statement translated (consciously or not) the esperanto of a proud and powerful nation on the eve of world triumph. Both the isolationism and the anticapitalist criticism of the late 1930s had subsided in the United States. Succeeding them was a climate of magnanimous internationalism, epitomized in Wendell Wilkie's best-selling book of 1943, *One World,* and soon to be focused on the building of the United Nations. A world rid of its recent tyrannies required, they sensed, appropriate symbolic forms.

The most potent reconciliation between an "architecture of democracy" and the modern sensibility was offered by Frank Lloyd Wright in these years. The second volume of his *Autobiography* appeared in 1943 with its credo "In the Nature of Materials." In it he continued his crusade for an "organic" architecture placing machine technology in the service of humanistic values. Also published in 1943 was Ayn Rand's novel *The Fountainhead,* in which the Wrightian protagonist was romanticized into a full-blown American symbol: the modernist genius-architect, at first thwarted by an uncomprehending society, then triumphantly vindicated for his foresight and individualism. Wright, of course, could hardly have been imagined any larger than life. The same year, he sent a petition to the United States government requesting a mandate to build his suburban dream, Broadacre City, throughout the entirety of America. He solicited signatures from John Dewey, Albert Einstein, Buckminster Fuller, Walter Gropius, Henry-Russell Hitchcock, Ludwig Mies van der Rohe, Robert Moses, and fifty others.[6] In this respect, Wright and Fuller (and Moses for that matter) were alike—they believed in thinking "in the biggest way that you know how."[7]

If bravado was possible in a country that had come through the war physically unscathed, in Europe the day of inflated conceptions had passed. Pragmatism and relief tinged with hope characterized the immediate postwar period. In the war-damaged areas of the Western countries, rebuilding proceeded quickly, providing major new jobs for architects. The work was carried out with dedication, if sometimes shoddy results. In England forced austerity inspired a disciplined and on occasion distinguished design of schools, housing, and towns. Le Corbusier's Unité d'Habitation rose in Marseilles, a supreme emblem of the functionalist aesthetic. Yet on its completion, the very singularity of this great urban ship—intended prototype of a convoy that never materialized in the French landscape—lent it a tragic dimension. Its

sculptural presence and surreal roofscape "spoke" with a new poetics.

CIAM, meeting in 1947 in Bridgwater, England, after a decade of inactivity, reaffirmed its earlier stance on functionalism but put new emphasis on spiritual and emotional values. Two themes were introduced: aesthetics, and how to bring modern architecture to the "man on the street." The first, passionately advanced by the young Aldo van Eyck, was, like Le Corbusier's credo of "ineffable space," a call for an infusion of poetic imagination into architecture. The second, bound up with the monumentality debate, became increasingly urgent as Stalin's social realism pervaded Eastern Europe, obliterating the culture of modernism that had thrived there prior to the war.

With heightening Western perception of Soviet repression, America appeared a beacon of freedom and opportunity. The architectural emigrés from Germany who entered this country starting in the mid-1930s—Walter Gropius, Ludwig Mies van der Rohe, Marcel Breuer, Erich Mendelsohn, and others—found an environment receptive to their ideas. Bruno Zevi, who finished his education in America during the war, went home to Italy bearing Wright's message of organicism, while the French architect Marcel Lods reported to his compatriots, after a tour in 1946, his "enthusiasm and euphoria" at witnessing the products of American civilization. Alvar Aalto, visiting the United States in 1940 at the height of Russo-Finnish hostilities, also was drawn to America during the war years. His country's pact with the Nazis halted further contacts; in 1943 he found himself obliged to head an entourage of Finnish architects to inspect German military installations, hosted by Albert Speer, Hitler's new armaments minister. But after the war he returned to teach and build Baker House at Massachusetts Institute of Technology. His infatuation was not to last, though. At first eager to establish a base here, he soon became critical of the excessive materialism of American culture.

The Americanization of modernism

With the aid sent by America under the Marshall Plan, Western Europe largely recovered from the postwar emergency by the early 1950s. It now braced for a different onslaught as the progressive modernism it had exported to the United States in the 1920s and 1930s recrossed the Atlantic in the reverse direction. Along with the material goods of the new *pax Americana* came a new set of cultural values.

The American invasion of Italy brought not only peace and national liberation, the end of destroyed cities and prostitutes, but also chewing gum, powdered milk, and Coca-Cola, and first and foremost the idea of "comfort" and the mechanization of the home. The myth of the refrigerator was born . . .[8]

If the great symbolic client of modern architecture had been the proletariat, heroic protagonist of an idealistic socialism, that of the period after was the middle class. For geared-up capitalist economies now facing the threat of overproduction, the American slogan of "better living through technology" was a manifest destiny. Focus shifted from production to consumption, marketing, and "planned obsolescence"; from "revolutionary producers" to a new class of consumers happy to leave behind the asperities of *Existenzminimum*, desirous of an ever higher standard of living and the leisure to enjoy it. The emphasis on the domestic environment gave women a central role in the marketplace even as they were denied one in the workplace (a contradiction that would have political consequences by the 1960s). From *Germany Year Zero* to *Miracle in Milan* to *La Dolce Vita:* the route led from the rigors of scarcity to an "aesthetics of

plenty."[9] By the end of the decade the "economic miracles" created by the reorganization of West European production to serve technocratic and acquisitive ends had made the world ripe for full-blown consumerism. Whether the culture purveyors would play an affirmative or a critical role in this formation was not yet, however, clearly discerned.

For some, the transformation of functionalism from socialist to capitalist utopia occurred seamlessly. To Gropius there was ostensibly little disjunction in adapting the program of the Bauhaus, where he had first aspired to a partnership between art and industry, to American managerial democracy. Only a shift in rhetoric signaled the change: from "totality," an all-encompassing synthesis of art and handicraft or industrial production, to "team," a well-coordinated group of specialists. Ironically, the new corporate professionalism of the 1950s—soon decried by sociologists as engendering a society of "organization men"—was the antithesis of the cultural and social nonconformism embodied in the diverse group of personalities at the Bauhaus.

At the Hochschule für Gestaltung in Ulm, West Germany, which opened in 1955 on the Bauhaus model, the contradictions were only gradually elucidated in successive restructurings of the curriculum. An initial conception of the designer as creator of *gute Form* (Max Bill's position) gave way to that of the designer as captain—"coordinator"—of industry (Tomás Maldonado's), retreating by the mid-1960s into a critical theory of design largely confirming the Frankfurt School's critique of culture. Abraham Moles, a lecturer on information theory at Ulm, would write,

functionalist doctrine . . . is essentially an ascetic doctrine and manifestation of a certain philosophy of life: that of scarcity, of rational application of existing means for clearly defined purposes. Within certain sectors of culture functionalism will retain its validity. But recently functionalism has entered a critical period due to the growth of affluent society. . . . Functionalism necessarily contradicts the doctrine of affluent society which is forced to produce and to sell relentlessly. . . . [The latter] creates a system of neokitsch by accumulating objects in the human environment. At this point the crisis of functionalism becomes manifest.[10]

Symptomatic was the fact that functionalism was now increasingly perceived as a stylistic manifestation linked to an earlier historical period. As such, it was doubly condemned: too abstract and elitist for the symbolic populism promulgated in the communist countries under Stalinism, it was too abstract and antiindividualistic for those in the Western countries paranoiacally professing "freedom." While the consolidation of state power in Eastern Europe left architects little leeway for opinion, in the United States for several years McCarthyism created a xenophobic climate for many of the same emigrés the country had welcomed earlier. A public housing project in Los Angeles by Richard Neutra was quashed in 1951 as "creeping socialism."[11]

Yet this was simply demagoguery on both sides, a battle of ideology fired by the intensifying Cold War. Khrushchev, seizing power shortly after Stalin's death in 1953 and more pragmatic in economic matters, reinstated functionalist building and outlawed decorative excesses. Meanwhile the cost-effectiveness implicit in a stripped aesthetic was hardly lost on capitalist builders and speculators. Big business became the second major client for postwar architecture. The new multinational corporations, surrogates for governments struggling to preserve their spheres of influence around the world, offered lucrative commissions. The leading architects were soon more preoccupied with corporate or government headquarters and single-family houses

than with solutions to factories and social housing. Modernism, as now reinterpreted, largely meant a frame with repetitive components. Flexibility became interchangeability as the "modular plan" replaced the free plan and "form follow[ed] form."[12]

The ubiquitous glass curtain wall turned out to be, paradoxically, a plane as absolute as the Iron Curtain. As with the new American painting of these years, successfully proselytized by the ex-Marxist art critic Clement Greenberg, an abstract aesthetic sublimated disturbing subsurface contents.[13] In architecture, Henry-Russell Hitchcock and Philip Johnson's selective and formalistic adaptation of the modern movement, propounded two decades earlier, had a similar effect. As the received version of modernism by the 1950s, the authors' denatured concept (more nuanced in its original formulation) enabled architecture to be abstracted from specificities, making possible a truly "international style." It now penetrated all corners of the world, including the newly decolonized "Third World" countries aspiring to Western living standards, at times hybridizing local vernaculars. An exception to the mostly superficial efforts at contextualism was Le Corbusier's work in Chandigarh, a brilliant, if flawed, effort to wed Indian tradition to modernism. Closer to home, Lewis Mumford touted the "native and humane" regionalism of the San Francisco Bay area. The language of corporate hegemony was also inflected with personal inputs. Yet the subjective design approaches that now proliferated, from the eclecticism of Johnson himself or Edward Durrell Stone to the sculptural expressionism of Eero Saarinen in America, or the virtuosities of Oscar Niemeyer in Brazil and Kenzo Tange in Japan, were the other side of the glazed grids perfected by Skidmore, Owings and Merrill. "Form was king."[14]

In American design education as well, the postwar revaluation of modernism tended along formalist lines. Starting in the late 1930s, the presence of Gropius at Harvard, Laszlo Moholy-Nagy at the Institute of Design, and Mies van der Rohe at Illinois Institute of Technology grounded American pedagogy in traditions established at the Bauhaus. The didactic exposition of modernist form and materials led in many instances to refined and sophisticated results. In others, overemphasis on functional expression produced the clichés of the "decorated diagram."[15] Possibly the old Beaux-Arts orientation had been exorcised only superficially. Louis Kahn, a charismatic presence at Yale and the University of Pennsylvania during the 1950s and 1960s, arrived at his own synthesis. Meanwhile, at an educational outpost like the University of Texas at Austin, an innovative curriculum was predicated on rigorous analysis of form. The English architect-historian Colin Rowe, who was to influence two generations of American students (the later one postmodernist), linked modernism to academic tradition in his rereadings of modern architecture, calling into question the sociotechnical *Zeitgeist* that had been an article of faith for preceding historians.

A similar argument was made, though with opposite consequences, by Reyner Banham in his seminal *Theory and Design in the First Machine Age* (1961) and in Italy by Giulio Carlo Argan. For the latter writers, and for other inheritors of the "functionalist tradition," the relation between "ethics" and "aesthetics" remained a vexed one. Peter and Alison Smithson in England, initially affected by the neo-Palladianism of the Wittkowerian school, soon began challenging the modernist establishment in less academic ways, seeking a "socioplastic" basis for design. Under the banners of Team 10 and the New Brutalism they promoted an architecture of "growth and change," seeking inspiration in the spontaneity of popular culture and anthropological sources, and rejecting CIAM's mechanistic model of urbanism for more empirical "patterns of association." John Voelker, a cofounder of Team 10, articulated the new concerns:

Images:
1930. The frame building and the multilevel high-rise city, images which contained a complete urban system.
1950. Random images drawn from many sources containing single ideas which, one by one, contribute to, change, and extend the experience of space.
Program:
1930. To popularize the already established style of the modern movement—didactic.
1950. To search for a plastic system which reciprocates and intends in architectural form existing ecological patterns.
Method:
1930. To categorize the general situation and to develop it through the dialectical manipulation of the categories made.
1950. The empirical observation of particular situations and development through the architectural expression of those unique patterns observed within them.
Technique:
1930. To replace existing buildings and cities with new categorically formulated elements.
1950. The time-conscious techniques of renewal and extension derived from the recognition of the positive ecological trends to be found in every particular situation.
Results:
1930. Prototype buildings and master plans, each charged with the full "international" urban program. Irrespective of location—didactic.
1950. Building in unique situations. The elements articulate and resolve the ecological patterns, and provide instruments of research into possible development of each location.[16]

Spearheaded by Team 10's critique, the breakup of CIAM at the end of the decade was a major symbolic event. The organization had greatly broadened its base during the postwar period, drawing participants from all over the world to its ninth congress in Aix-en-Provence in 1953, and fêting the completion of Le Corbusier's Unité d'Habitation in Marseilles on this occasion. But the nocturnal celebration on the building's roof augured the end of the dream of rationalism. The "youngers," as the incipient Team 10 thought of themselves, were in an oedipal relationship with the generation of the masters, reverent but restive. Le Corbusier himself was now building Ronchamp. Three years later, absenting himself from CIAM's last official congress, held at Dubrovnik, he acknowledged the incurable rift:

It is those who are now forty years old, born around 1916 during wars and revolutions, and those then unborn, now twenty-five years old, born around 1930 during the preparation of a new war and amidst a profound economic, social, and political crisis—who thus find themselves in the heart of the present period the only ones capable of feeling actual problems, personally, profoundly, the goals to follow, the means to reach them, the pathetic urgency of the present situation. They are in the know. Their predecessors no longer are, they are out, they are no longer subject to the direct impact of the situation.[17]

By 1959 CIAM was gone. Its "museum meeting" at Henry van de Velde's Kröller-Müller in Otterlo succeeded in consigning modernism—now the "great tradition"—to history.

From metropolis to global village

If the manifesto was the generic expression of the emergent aspirations of the early-twentieth-century avant-gardes, indeed of the period of high modernism itself,[18] its moment was over by the midcentury. An architecture culture largely in retrenchment after the war, engaged in reconstructing its interrupted development or else institutionalizing itself in the professional and academic mainstream, was not disposed to such a positive form of enunciation. The missionary spirit that had once animated it deflated in a widening breach between theory and practice.

The dissolution of the unitary formation previously coalesced under the banner of CIAM further tended to produce a fragmented succession. In England, historian John Summerson wrote of British architecture in the 1950s:

. . . the old notion of a party line, a "cause" to be argued and supported by any amount of didactic talk, no longer has the slightest relevance, any more than the notion of "the international style" of the thirties has the slightest relevance. . . . We are no longer in the period of "towards an architecture." It is architecture or nothing. And if it is architecture, it is architecture continually redefined—not in words but in forms.[19]

Across the continent, in Italy, revisionism was the order of the day. The bourgeois tradition that modernism had repressed was now recuperated by means of a new emphasis on historical continuity and contextualism, lent credence by the editorial activity of Ernesto Rogers at *Casabella-Continuità*. So eclectic was the architecture emerging out of the rationalist legacy that Rogers was led to remark that the only new orthodoxy in Italian architecture was that of heterodoxy itself.[20]

Yet despite—or because of—this apparent vacuum, a "culture of criticism" began to reemerge. Indeed in Italy, where fascism and modernism had had a particularly involved relationship, an exceptionally high level of intellectual debate persisted from the earlier period. During the 1930s, *Casabella* had functioned as a rallying point for Italian rationalism under the legendary figures Edoardo Persico and Giuseppe Pagano. After the war, this tradition continued in critical battles of position, if not polemic, waged in the architectural press. Within a few years after the war, despite economic scarcity, at least a dozen significant journals concentrating on architectural subjects were publishing. In the 1950s, when Rogers renovated *Casabella* adding the suffix *Continuità,* it was the most dedicated journal "of tendency" in the world.[21]

Elsewhere the major journals were more typically geared to boosting the profession. Yet in England, notwithstanding the general lack of position-taking noted by Summerson, critical discourse was forwarded in the *Architectural Review,* where the postwar editors, once staunch modernists, now championed Swedish informality and townscape picturesque with nearly equal fervor. By 1953 the *Review* had a less sentimental interlocutor in *Architectural Design,* redesigned by the young Theo Crosby with an eye to the increasingly important student readership.

The theory-practice split was likewise ingrained in the American professional journals, which now publicized a mainstream modernism. Yet in Los Angeles *Arts and Architecture* under John Entenza positioned itself more critically relative to new work. Inaugurating its "Case Study Houses" program in 1945, it sponsored innovative designs by Californians like Charles Eames and Richard Neutra. "Little magazines," often of academic provenance, also cropped up as forums for debate, like Yale School of Architecture's *Perspecta,* founded in 1952 by George Howe, responsible for early

expositions of Kahn's work and ideas.

Later in the decade, more tendentious publications appeared, aligned with specific movements. In 1958 *Le Carré bleu* was launched in Helsinki, to function largely as a vehicle for Team 10 ideas, and *Ulm* was published by the Hochschule für Gestaltung. The first number of the avant-garde *International Situationist* also appeared, advancing a "unitary urbanism." In 1959 Van Eyck became principal editor of Dutch *Forum*, making it another arena for the post-CIAM critique. The first (and only) issue of *Metabolism* came out in Japan in 1960. During the 1960s the postwar media reached a new threshold with the transformation of the architectural journal into a radical project in itself. In the paper polemics of the British Archigram, its first broadsheet published in 1961, and other groups, the "antiarchitecture" position vividly unfolded.

This diverse activity worked to break down national parochialisms and to penetrate countries isolated by geography, technological backwardness, and repressive political regimes. It preceded and followed the shifting cultural axis: from Europe to America, as well as to places outside the usual centers of ferment, where crucial architectural developments were occurring—Scandinavia, Japan, South America, Eastern Europe, India. Nor was the expanded journalistic network solely responsible for the circulation of ideas. The internationalization of firms, prestige associated with the commissioning of foreign architects, the cosmopolitanism of the schools, wider travel, and other mechanisms of dissemination contributed to the universalizing of architecture culture. At the same time, decolonization allowed voices to be heard (or images seen) from regions that a Eurocentric architecture had long ignored or relegated to exotica. The great metropolises virtually synonymous with modernism earlier in the century found themselves reduced to the scale of historical nodes in what would be described by Marshall McLuhan in 1964 as a global village.[22]

That same year the success of Bernard Rudofsky's "Architecture without Architects" exhibition at the Museum of Modern Art in New York underscored the desire of architects to look outside their discipline for new meaning and less egotistic models. The economic boom of the 1950s had slowed by the beginning of the 1960s, while the Cold War warmed into the tense confrontation of the Cuban missile crisis and an (outer) space race. The resurgence of a leftist critique of culture and steady American escalation of its misguided adventure in Vietnam now elicited a wave of anti-Americanism. Some architects attempted to regain control over a troubling reality through a return to technological solutions and scientific methodologies, while others translated their criticism into sociopolitical protest and utopian prophecy. Still others embraced popular culture or its countercultural spin-offs, learning to like Levittown or building domes in the desert.

The first tendency constituted a belated success for rationalism, now as a metalanguage. Structuralism, having originated earlier in the century, replaced the existentialist *Angst* of the 1950s as privileged intellectual current. Linguistic, semiotic, and typological approaches to design flourished on the border between science and culture, affording methods and models to the technically minded wing of the profession—architect-planners like Kevin Lynch, Christopher Alexander, Yona Friedman—as well as to new theoreticians of architectural history and form like those in Venice or at the Institute for Architecture and Urban Studies in New York City, the latter founded in 1967.

On the critical-activist side, the range of responses ran the gamut from the social reformism spurred by Jane Jacobs in America to Archigram's futurism. While Jacobs preached an urbanism continuous with the fabric of the city, Archigram projected a

house for the year 1990 with adjustable walls and floors, inflatable furniture, a hovercraft bed-capsule, and robotized servicing. Despite their different visions, though, the two were linked by the vehemence of their attack on modernism and the breadth of their impact. Cultural connections bridged international boundaries in unprecedented ways. The radical school had protagonists in Japan, Italy, France, Austria. As Hans Hollein was to put it, "Anybody who wants to be on good standing has to have a plug-in city project in his pocket or an inflatable text-pavilion."[23]

The student protests of 1968 would seem to represent a culmination in the course of late modernism, at least within a broader cultural perspective, and were proclaimed to be such by intellectuals. Herbert Marcuse wrote in *The End of Utopia* (1967), "Historical possibilities must be thought according to forms that put the accent on rupture rather than continuity with past history, on negation rather than on the positive, on difference rather than progress."[24] Inevitably, though, the regressions that followed the revolts in the universities counter such a periodization. With regard to architecture, the strikes that closed the Ecole des Beaux-Arts in France after 250 years largely failed to bring about the sweeping professional and social reforms to which radical architects aspired. Instead, the first wave of postmodernism in the 1970s vindicated many values epitomized by the old academy. In 1975 the Museum of Modern Art in New York, bastion of modernism, would mark the return of historicism with a major exhibition on Beaux-Arts architecture.[25] The publication in 1966 of Robert Venturi's *Complexity and Contradiction in Architecture* and Aldo Rossi's *Architecture of the City* proved a truer portent of the two decades to come than the short-lived "events of May."

History is not a tree

The preceding sketch barely evokes the rich dynamics of a period as complex and disparate as that represented in this anthology. Indeed, the heterogeneity of the subject matter poses special problems for the volume as a whole. Within the purview of contemporary "architecture culture" falls the widest possible range of formal, technical, and institutional considerations, all variously intersecting with intellectual models, modes of production, and modes of consumption.

It is with the realization of the diversity of the field rather than out of eclectic criteria of selection that visions as different as an early meditation by Gaston Bachelard on the spatial poetics of the house and Buckminster Fuller's Dymaxion proposal of nearly the same date both find a place here. Urbanism is the subject of this volume as much as architecture, especially as the relationship between the two disciplines remained a critical issue after the war. Also deemed "architectural" are documents like Nikita Khrushchev's dictum on functionalism and Robert Moses's assault on utopian planning—two ideologically opposite statements, but both revealing in terms of the way different levels of spatial production (what used to be called the base and superstructure) act upon each other. The decision to organize the presentation chronologically rather than thematically stemmed from the desire not to suppress such interrelationships. At the same time, in order to give the reader an indication of some threads interwoven in the book, cross-references—on occasion suggestive rather than direct—have been provided in the margins of the introductory articles.

One of the immediate problems of defining the criteria for the selections was to reconsider the meaning of the "document" during the period at hand. As Michel Foucault has pointed out, the primary task of historical work in our time is the "questioning of the document." In particular, what is an *architectural document?* In the

case of architecture, the relationship between written, graphic, and built record—reductively seen as a relationship of theory or criticism, representation, and practice—is particularly intricate. Material of the type that follows intervenes in both the production and reproduction of the built world; it is part of the construction of historical space. This reflection gives rise to a rather broad definition of document here. Rather than requiring that a text have had a specific reception or novelty when it appeared, we found it more useful to consider the document as *a manifestation implicated in a significant way with a major constellation of discursive thought or practice.* Thus along with many "classics," a certain amount of material has been included whose importance could only become apparent in retrospect.

In some cases, an obvious choice has been omitted for reasons of length—to avoid having to make meddlesome cuts—but also on occasion in the interests of drawing the reader's attention to a lesser known writing. We have also sought, when appropriate, to make available previously untranslated material rather than reissue that which already exists; thus a number of writings appear in English for the first time. In other instances, a text was chosen more for "internal" reasons: because it had a significant connection to another in the book, or conversely, to avoid redundancy.

Through the process of selection we have also tried to convey a sense of the time that an idea or conception entered architectural discourse. With regard to Team 10, for instance, the "Doorn Manifesto," though less crystallized than some other statements, pinpoints the coalescence of that group's thinking as it occurred right after CIAM's ninth meeting. On the other hand, history is as much a matter of arrivals as departures. Frank Lloyd Wright's statement of 1943 is a synthesis of his previous thinking at a moment when his position had great impact. Naturally, despite the attempt to be as discriminating as possible in such choices, the ultimate compilation represents a subjective and occasionally pragmatic judgment and makes no claim to be exhaustive or "correct." On the contrary, the reader is invited to argue with both its inclusions and omissions. (It might be stated in anticipation that a few of the latter were owed to the difficulty of obtaining a text efficient enough to accommodate the present format.)

In line with the above notion of timeliness, we have placed the documents in sequence according to their original date of utterance or writing, when this could be ascertained, rather than the date they were first published. This was done in view of the fact that ideas in architecture often have a significant half-life prior to reaching print. Occasionally this caused complications when the author made later revisions. Such problems have been adjudicated on an individual basis, and the version of the text here adopted is indicated in the introductory article or source note.

Editing of documents has been kept to a minimum throughout, except that spellings have been Americanized and typographical and other obvious errors corrected when these had no reason to be perpetuated. As a general policy as little excerption or internal cutting as possible was done; where it was unavoidable, the intervention has been indicated by three dots in brackets. Unbracketed ellipses belong to the original text. The illustrations in the book are those that accompanied the document originally, or a selection of them, unless otherwise indicated. Unascribed translations are the editor's. Finally, every attempt has been made to secure permission for publication from the appropriate copyright owner or owners. This information appears in the source note accompanying each document. Oversights are sincerely regretted and, upon proper notification, will be rectified in future editions of this book.

How to read a compendium of this type? In different ways: as a sourcebook, as

a narrative, or—in the spirit of the *flâneur*—just by browsing. The introductory articles provide, in very abbreviated form, some background for the documents and are written so that the latter may be read independently. Selective bibliographic references in the articles and at the back of the book offer some points of departure for further study.

Joan Ockman
August 1992

Notes

1. Le Corbusier, *Looking at City Planning*, trans. Eleanor Levieux (New York: Orion Press, 1971), p. 1.
2. *Architectural Forum*, September 1943, p. 4.
3. Le Corbusier, *The Athens Charter*, trans. Anthony Eardley (New York: Grossman Publishers, 1973), p. xix. See also Sigfried Giedion, "CIAM at Sea: The Background of the Fourth (Athens) Congress," trans. P. Morton Shand, *Architects' Yearbook* 3 (1949), pp. 36–39.
4. *The Four Routes*, trans. Dorothy Todd (London: Dennis Dobson Limited, 1947), p. 15 (translation modified). Original French edition 1941.
5. Philip Johnson, "Where Are We At?" in *Architectural Review*, September 1960, p. 175. See also Johnson's earlier "War Memorials: What Aesthetic Price Glory?" *Art News* 44 (September 1945), pp. 8–10, 24–25. Loos had written, "Only a very small part of architecture belongs to art: the tomb and the monument. Everything else, everything which serves a purpose, should be excluded from the realms of art" ("Architecture," 1910).
6. Wright's decentralist vision of society was first conceived in the early 1930s and further elaborated during the postwar period in *When Democracy Builds* (1945) and *The Living City* (1958). For the document mentioned, see John Sergeant, *Frank Lloyd Wright's Usonian Houses: The Case for Organic Architecture* (New York: Whitney Library of Design, 1976), p. 201.
7. See *Designing a New Industry: A Composite of a Series of Talks by R. Buckminster Fuller, 1945–1946* (Wichita: Fuller Research Institute, 1946), p. 9.
8. Vittorio Gregotti, "Italian Design 1945–1971," in Emilio Ambasz, ed., *Italy: The New Domestic Landscape* (New York: Museum of Modern Art, 1972), p. 322 (translation modified).
9. A phrase first coined by Lawrence Alloway in 1959. See Alloway's essay "The Independent Group: Postwar Britain and the Aesthetics of Plenty," in the catalogue of the same title, ed. David Robbins (Cambridge: MIT Press, 1990), pp. 49–53.
10. "Functionalism in Crisis," *ulm 19/20* (August 1967), p. 24.
11. See Thomas Hines, *Richard Neutra and the Search for Modern Architecture* (New York: Oxford University Press, 1982), pp. 229–30.
12. Matthew Nowicki, "Origins and Trends in Modern Architecture" (1951) in this volume, pp. 150–56.
13. See Serge Guilbaut, "The New Adventures of the Avant-Garde in America: Greenberg, Pollock, or from Trotskyism to the New Liberalism of the 'Vital Center,'" trans. Thomas Repensek, in Francis Frascina, ed., *Pollock and After: The Critical Debate* (New York: Harper and Row, 1986).
14. Robert Venturi's characterization. See his preface to the second edition of *Complexity and Contradiction in Architecture* (New York: Museum of Modern Art, 1977), p. 14.
15. For a critical assessment of the Gropius pedagogy at Harvard, see Klaus Herdeg, *The Decorated Diagram: Harvard Architecture and the Failure of the Bauhaus Legacy* (Cambridge: MIT Press, 1983). A history of postwar American architecture education remains to be written.
16. Published in Oscar Newman, *New Frontiers in Architecture: CIAM '59 in Otterlo* (New York: Universe Books, 1961), p. 16.
17. Letter to CIAM 10, Dubrovnik. In Newman, *New Frontiers in Architecture*, p. 16.
18. As exemplified by Ulrich Conrads's anthology *Programs and Manifestoes on 20th-Century Architecture*, trans. Michael Bullock (Cambridge: MIT Press, 1970). Conrads's book goes up to 1963.
19. Introduction to Trevor Dannatt, *Modern Architecture in Britain* (London: Batsford, 1959), p. 28.
20. See Ernesto Rogers, "L'Ortodossia dell'eterodossia," *Casabella* 216 (June–July 1957), pp. 2–4. "Continuità o crisi" is the title of an editorial by Rogers in *Casabella* 215 (April–May 1957), pp. 3–4.
21. On the relations between theory and practice in postwar Italy and France and the architect's intellectual role, see Jean-Louis Cohen's valuable *La Coupure entre architectes et intellectuels, ou les enseignements de l'italophilie* (Paris: Ecole d'Architecture Paris-Villemin, 1984).
22. *Understanding Media: The Extensions of Man* (New York: McGraw-Hill, 1964), p. 20.
23. *Architectural Design*, February 1970, p. 62.
24. As cited by Jean Baudrillard in *Utopie: Revue de sociologie de l'urbain*, May 1969, p. 14.
25. The catalogue of the exhibition is Arthur Drexler, ed., *The Architecture of the Ecole des Beaux-Arts* (New York: Museum of Modern Art, 1977). The events of 1968 figure on one page of this 500-page volume.

1943–1949

1943 Patrick Abercrombie and John Henry Forshaw, plan for Greater London
Oscar Niemeyer, church at Pampulha, Belo Horizonte, Brazil
Albert Kahn Associates, Willow Run bomber plant for Ford Motors, Ypsilanti, Michigan
Ludwig Mies van der Rohe, Metallurgical Research building, Illinois Institute of Technology, Chicago
Gilmore D. Clark (for Metropolitan Life Insurance Company), Stuyvesant Town, New York City (–1949)
Walter Gropius and Konrad Wachsmann, Packaged House System for General Panel Corporation (prototype demonstration)

1944 Auguste Perret, reconstruction, Le Havre, France (–1954)
Mario Fiorentino et al., Mausoleum to Martyrs of the Ardeatine Caves, Rome (–1950)
Ely Jacques Kahn, municipal asphalt plant, New York City
Sven Backström and Leif Reinius, Gröndal residential district, Stockholm (–1945)
George Howe, Louis Kahn, and Oscar Stonorov, housing, Coatesville, Pennsylvania
Jean Prouvé, prefabricated housing units, Lorraine and Vosges, France
Alfred Roth, De Mandrot house, Zurich

1945 Le Corbusier, reconstruction plan, St. Dié, France
Sven Markelius, general plan, Stockholm (–1952)
Hassan Fathy, village of New Gourna, West Luxor, Egypt (–1948)
Ludwig Mies van der Rohe, Farnsworth house, Plano, Illinois (–1950)

1946 Frederick Gibberd (Ministry of Town Planning), Harlow New Town, England (–1963)
Kenzo Tange, Peace Memorial, Hiroshima, Japan (–1956)
Lodovico Belgiojoso, Enrico Peressutti, and Ernesto Rogers, Monument to the Dead in German Concentration Camps, Milan
Ludwig Mies van der Rohe, Illinois Institute of Technology campus, Chicago
Alvar Aalto, Baker dormitory, Massachusetts Institute of Technology, Cambridge, Massachusetts (–1948)
Carlo Mollino, hotel and sled-lift station, Val di Susa, Italy (–1947)
William Wurster, Reynolds house, San Francisco
R. Buckminster Fuller, Dymaxion house, Wichita, Kansas (prototype)

1947 Wallace Harrison and Max Abramovitz, United Nations complex, New York City (–1952)
C. H. Aslin (Hertfordshire County Council), junior school, Croxley Green, Hertfordshire, England (–1949)
Le Corbusier, Unité d'Habitation, Marseilles (–1952)
William Levitt, tract housing, Levittown, Long Island (–1951)
Richard Neutra, Tremaine house, Montecito, California (–1948)

1948 Ludovico Quaroni, church of Santa Maria Maggiore, Francavilla a Mare, Italy (–1957)
Pier Luigi Nervi, "Salone B" exhibition hall, Turin (–1949)
Eero Saarinen, General Motors Technical Center, Detroit (–1951)
Pietro Belluschi, Equitable Savings and Loan building, Portland, Oregon
Amancio Williams, Suspended Building for Offices (project)
Walter Gropius and the Architects Collaborative (TAC), Graduate Center, Harvard University, Cambridge, Massachusetts (–1950)
Paul Lester Wiener and José Luis Sert, master plan for Bogotá, Colombia

1949 Alvar Aalto, town hall, Säynätsalo, Finland (–1951)
Frank Lloyd Wright, laboratory tower for Johnson Wax Company, Racine, Wisconsin
J. H. van den Broek and Jacob Bakema, Lijnbaan shopping district, Rotterdam (–1953)

Alison and Peter Smithson, Hunstanton school, Norfolk, England (–1954)
Ludovico Quaroni and Mario Ridolfi, INA-Casa housing, Via Tiburtina, Rome (–1954)
Philip Johnson, Johnson house, New Canaan, Connecticut
Charles and Ray Eames, Eames house (Case Study House), Pacific Palisades, California

1943

One of the prophetic themes to be debated in the 1940s was that of the "new monumentality." The 1937 World Exposition in Paris had been the occasion of modernism's official triumph for most of the participating countries. At the same time, though, in the confrontation that took place at the foot of the Eiffel Tower between Albert Speer's pavilion for the Third Reich, avatar of Prussian classicism, and Boris Iofan's Soviet pavilion, an embodiment of the more dynamic aspirations of social realism, the new architecture received an implicit challenge to its potency as a form of civic representation.

The accepted view was that "if it is a monument it is not modern, and if it is modern it cannot be a monument," as Lewis Mumford wrote in 1938 in *The Culture of Cities*. Earlier, Henry-Russell Hitchcock's *Modern Architecture: Romanticism and Reintegration* (1929) had helped to inculcate this idea. Yet the dichotomy between "new traditionalists" and "new pioneers" was an oversimplification. Many of those within the folds of the modern movement had realized for a long time that the new aesthetic needed to be infused with a collective and symbolic content. The dispute over Le Corbusier's League of Nations project had raised the issue in explicit terms in 1927.

On the eve of the Second World War, J. J. P. Oud, responsible for some of the most distinguished examples of international modernism during the previous decade, returned to hierarchical massing, symmetrical planning, and a cautious reintroduction of decorative elements in his Shell Building in the Hague. But the scandal provoked by Oud was only the most extreme example of the effort by architects at this time to find a synthesis between monumental expression and progressive ideology. In a catalogue introduction for an exhibition held at the Museum of Modern Art in New York in 1944 entitled *Built in U.S. A.—1932–1944*, Elizabeth Mock lauded a prize-winning design of 1939 by Eliel and Eero Saarinen and Robert F. Swanson for the Smithsonian Gallery of Art on the Mall in Washington, D.C., as a monument epitomizing "the very nature of our democracy."

103–6

Sigfried Giedion, **José Luis Sert**, and **Fernand Léger** entered the debate in 1943 with a position paper entitled "Nine Points on Monumentality." The joint pronouncement by an architectural historian, an architect-planner, and a painter—all living in New York during the war years and in close contact—was intended for publication in a volume planned by the American Abstract Artists which never appeared. A more extended discussion by each of the three from their respective outlooks was to have accompanied it. Of these, an essay by Léger appeared in 1946 in another publication by the American Abstract Artists, while Giedion's essay "The Need for a New Monumentality" came out in 1944 in a book edited by Paul Zucker entitled *New Architecture and City Planning*, a major section of which was dedicated to the monumentality question.

The approach taken in both the "Nine Points" and "The Need for a New Monumentality" was to place monumentality—"the expression of man's highest cultural needs"—within the historical evolution of modernism itself. While modern architecture had earlier been obliged to concentrate on the more immediate and mundane problems of housing and urbanism, the authors argued, its new task in the postwar period would be the reorganization of community life through the planning and design of civic centers, monumental ensembles, and public spectacles. This "third step" would involve the collaboration of architects, planners, and artists. The chief difficulty, in their view, was to invent forms of large-scale expression free of association with oppressive ideologies of the past and historicist bombast ("pseudomonumentality"). To this end, a repertory of colorful and mobile forms and lightweight, naturalistic materials was proposed. The work of contemporary artists like Picasso, Constantin Brancusi, Naum Gabo,

Alexander Calder, and Léger himself was seen as "pointing the way" for an architecture of full rather than empty rhetoric.

For Giedion this was clearly a shift from the machine *Zeitgeist* that had inspired *Space, Time and Architecture*, written in 1938–39. In an extended discussion of the League of Nations competition in that book he had commended Le Corbusier's entry specifically for its programmatic accommodation and absence of monumental rhetoric. In his article in the Zucker book—which began with the motto, "Emotional training is necessary today. For whom? First of all for those who govern and administer the people"— he stated of Le Corbusier's building, "the whole development of modern architecture towards a new monumentality would have been advanced for decades if the officials could have understood its quality." Giedion's reversal seems to have been in large part occasioned by the new impact of Frank Lloyd Wright. In an article on Wright's Johnson Wax building entitled "The Dangers and Advantages of Luxury" published at the end of 1939 in the journal *Focus*, he celebrated its overscaled columns and powerful central work hall, acknowledging that a modern administration building could "for once be based entirely on poetry."

The monumentality debate reached a point of intensity in an issue of the London journal *Architectural Review* published in September 1948 with invited contributions from Gregor Paulsson, Henry-Russell Hitchcock, William Holford, Walter Gropius, Lúcio Costa, Alfred Roth, and Giedion, and a late contribution from Lewis Mumford in April 1949. It would surface again at CIAM's eighth congress in Hoddesdon, England, in 1951, on the core of the city. But here, at a moment when social realism was at its height in Eastern Europe, the theme was exorcised in the West—at least for the moment. In summing up the congress's conclusions, Giedion stated, "There is no excuse for the erection of a monumental building mass," shifting the responsibility for producing symbolic forms to "creative painters and sculptors."

107–9
135–36
125–28

Yet the impulse behind the new monumentality was not to disappear. It would be transformed, *mutatis mutandis*, in the coming decades: in the mythopoetic structures of Louis Kahn and the new capitols built in India and Brazil, reemerging in the 1960s and 1970s in the historicism of the Italian Tendenza and the grandiloquent facades of postmodernism. Meanwhile, in Eastern Europe the theme would have a mirror image in the continuing struggle between social realism and functionalism.

47–54, 270–72
308–13
392–98, 446–49
120–24, 184–88

The verse from the French song with which the "Nine Points" opens is meant to convey the preciousness of great monuments of civic architecture: "What would you give, my beauty, to see your husband again? I will give Versailles, Paris and Saint Denis, the towers of Notre Dame, and the steeple of my native countryside . . ." A partial summary of the literature on monumentality may be found in Christiane C. and George R. Collins, "Monumentality: A Critical Matter in Modern Architecture," *Harvard Architecture Review* 4 (1984).

First published in S. Giedion, Architektur und Gemeinschaft *(Hamburg: Rowohlt, 1956), pp. 40–42. English edition:* Architecture, You and Me *(Cambridge, Mass.: Harvard University Press, 1958), pp. 48–52.*

Nine Points on Monumentality
J. L. Sert , F. Léger , S. Giedion

Que donneriez vous ma belle
Pour revoir votre mari?
Je donnerai Versailles,
Paris et Saint Denis
Les tours de Notre Dame
Et le clocher de mon pays.
Auprès de ma blonde
Qu'il fait bon, fait bon, fait bon.
—From an old French song,"Auprès de ma blonde"

1. Monuments are human landmarks which men have created as symbols for their ideals, for their aims, and for their actions. They are intended to outlive the period which originated them, and constitute a heritage for future generations. As such, they form a link between the past and the future.

2. Monuments are the expression of man's highest cultural needs. They have to satisfy the eternal demand of the people for translation of their collective force into symbols. The most vital monuments are those which express the feeling and thinking of this collective force—the people.

3. Every bygone period which shaped a real cultural life had the power and the capacity to create these symbols. Monuments are, therefore, only possible in periods in which a unifying consciousness and unifying culture exists. Periods which exist for the moment have been unable to create lasting monuments.

4. The last hundred years have witnessed the devaluation of monumentality. This does not mean that there is any lack of formal monuments or architectural examples pretending to serve this purpose; but the so-called monuments of recent date have, with rare exceptions, become empty shells. They in no way represent the spirit or the collective feeling of modern times.

5. This decline and misuse of monumentality is the principal reason why modern architects have deliberately disregarded the monument and revolted against it.

Modern architecture, like modern painting and sculpture, had to start the hard way. It began by tackling the simpler problems, the more utilitarian buildings like low-rent housing, schools, office buildings, hospitals, and similar structures. Today modern architects know that buildings cannot be conceived as isolated units, that they have to be incorporated into the vaster urban schemes. There are no frontiers between architecture and town planning, just as there are no frontiers between the city and the region. Co-relation between them is necessary. Monuments should constitute the most powerful accents in these vast schemes.

6. A new step lies ahead. Postwar changes in the whole economic structure of nations may bring with them the organization of community life in the city which has been practically neglected up to date.

7. The people want the buildings that represent their social and community life to give more than functional fulfillment. They want their aspiration for monumentality, joy, pride, and excitement to be satisfied.

The fulfillment of this demand can be accomplished with the new means of expression at hand, though it is no easy task. The following conditions are essential for

it: A monument being the integration of the work of the planner, architect, painter, sculptor, and landscapist demands close collaboration between all of them. This collaboration has failed in the last hundred years. Most modern architects have not been trained for this kind of integrated work. Monumental tasks have not been entrusted to them.

As a rule, those who govern and administer a people, brilliant as they may be in their special fields, represent the average man of our period in their artistic judgments. Like this average man, they experience a split between their methods of thinking and their methods of feeling. The feeling of those who govern and administer the countries is untrained and still imbued with the pseudo-ideals of the nineteenth century. This is the reason why they are not able to recognize the creative forces of our period, which alone could build the monuments or public buildings that should be integrated into new urban centers which can form a true expression for our epoch.

8. Sites for monuments must be planned. This will be possible once replanning is undertaken on a large scale which will create vast open spaces in the now decaying areas of our cities. In these open spaces, monumental architecture will find its appropriate setting which now does not exist. Monumental buildings will then be able to stand in space, for, like trees or plants, monumental buildings cannot be crowded in upon any odd lot in any district. Only when this space is achieved can the new urban centers come to life.

9. Modern materials and new techniques are at hand: light metal structures; curved, laminated wooden arches; panels of different textures, colors, and sizes; light elements like ceilings which can be suspended from big trusses covering practically unlimited spans.

Mobile elements can constantly vary the aspect of the buildings. These mobile elements, changing positions and casting different shadows when acted upon by wind or machinery, can be the source of new architectural effects.

During night hours, color and forms can be projected on vast surfaces. Such displays could be projected upon buildings for purposes of publicity or propaganda. These buildings would have large plane surfaces planned for this purpose, surfaces which are nonexistent today.

Such big animated surfaces with the use of color and movement in a new spirit would offer unexplored fields to mural painters and sculptors.

Elements of nature, such as trees, plants, and water, would complete the picture. We could group all these elements in architectural ensembles: the stones which have always been used, the new materials which belong to our times, and color in all its intensity which has long been forgotten.

Man-made landscapes would be correlated with nature's landscapes and all elements combined in terms of the new and vast facade, sometimes extending for many miles, which has been revealed to us by the air view. This could be contemplated not only during a rapid flight but also from a helicopter stopping in mid-air.

Monumental architecture will be something more than strictly functional. It will have regained its lyrical value. In such monumental layouts, architecture and city planning could attain a new freedom and develop new creative possibilities, such as those that have begun to be felt in the last decades in the fields of painting, sculpture, music, and poetry.

1943

The figure of **Frank Lloyd Wright**—Whitmanesque genius, charismatic master, prolific creator of a self-described American architecture—looms over the post-World War II period even more imposingly than the earlier part of the century. In fact, Wright, born in 1867, was continuing to proselytize, in his buildings, writings, and teaching, the very same ideas he had first articulated half a century before. As early as 1894 he had written an article exhorting architects to "bring out the nature of the materials." This theme, closely linked to his idea of organic architecture—itself derived from his "lieber Meister" Louis Sullivan—would preoccupy him for the rest of his life. In 1928 Wright wrote an eloquent series of articles for *Architectural Record* under the title "In the Cause of Architecture" focusing on the respective characteristics of different materials: stone, wood, tile and brick, glass, concrete, metal; "the logical material under the circumstances," he wrote succinctly, "is the most natural one for the purpose. It usually is the most beautiful . . ." Not surprisingly, in 1940, for the large retrospective of his work held at the Museum of Modern Art in New York he chose the same theme, "The Nature of Materials," a title that also served for the comprehensive volume by Henry-Russell Hitchcock that appeared two years later as an ex post facto catalogue. The credo that follows here, comprising a section of Wright's *Autobiography* as published in 1943, does not differ in substance from these earlier pronouncements.

On the other hand, Wright's impact at a moment when orthodox modernism was undergoing revision was enormous. His indictment of the functionalist "box"—"a white sepulture for unthinking mass-life"—reversed the equation of what he saw as an architecture dedicated to the machine with the alternative of a machine technology in the service of architecture, an architecture whose values were, above all, "humane." His major accomplishments of the middle to late 1930s—the completion of the Johnson Wax Building in Racine, Wisconsin, and of important residences like the Kaufmann house at Connellsville, Pennsylvania ("Falling Water"), as well as his elaboration of the Usonian house type and its suburban extension, Broadacre City—amply demonstrated the fertility of the architect's vision in his sixth decade. If earlier he could be relegated by a modern movement that did not know how to subsume him to being "the last great nineteenth-century architect," or by an Anglo-Saxon world remembering the reception of the 1910 Wasmuth edition of his work to being "Germanic," by the 1940s he would appear prescient and fully original. For Bruno Zevi, who would return home to Italy with a transliterated concept of organic architecture after spending the war years in America, and for the stream of architects who would seek out the architectural cult at Taliesin West, Wright's thought represented a powerful antidote to the dispersed and war-damaged culture of Europe.

68–69

It may be helpful to identify the "five new resources" on which Wright's argument below is predicated, as these get somewhat buried in the idiosyncrasies of his writing style. They are *spatial*, an interior concept of room-space; *material*, the advent of glass as a "supermaterial" allowing maximum penetration of light and the disappearance of the wall; *structural*, "tenuity" or continuity of structure, especially through the use of steel and plastics; *constructional*, fidelity in building to the inherent qualities—the nature—of materials; *expressive*, integral ornament, the giving of "natural pattern" to structure.

In the Nature of Materials: A Philosophy
Frank Lloyd Wright

Our vast resources are yet new; new only because architecture as "rebirth" (perennial Renaissance) has, after five centuries of decline, culminated in the imitation of imitations, seen in our Mrs. Plasterbuilt, Mrs. Gablemore, and Miss Flat-top American architecture. In general, and especially officially, our architecture is at long last completely significant of insignificance only. We do not longer have architecture. At least no buildings with integrity. We have only economic crimes in its name. No, our greatest buildings are not qualified as great art, my dear Mrs. Davies, although you do admire Washington.

If you will yet be patient for a little while—a scientist, Einstein, asked for three days to explain the far less pressing and practical matter of "Relativity"—we will take each of the five new resources in order, as with the five fingers of the hand. All are new integrities to be used if we will to make living easier and better today.

The first great integrity is a deeper, more intimate sense of reality in building than was ever pagan—that is to say, than was ever "Classic." More human than was any building ever realized in the Christian Middle Ages. This is true although the thought that may ennoble it now has been living in civilization for more than twenty centuries back. Later it was innate in the simplicities of Jesus as it was organic 500 years earlier in the natural philosophy, Tao (The Way) of the Chinese philosopher, Laotze. But not only is the new architecture sound philosophy. It is poetry.

Said Ong Giao Ki, Chinese sage, "Poetry is the sound of the heart."

Well, like poetry, this sense of architecture is the sound of the "within." We might call that "within," the heart.

Architecture now becomes integral, the expression of a new-old reality: the livable interior space of the room itself. In integral architecture the *room-space itself must come through*. The *room* must be seen as architecture, or we have no architecture. We have no longer an outside as outside. We have no longer an outside and an inside as two separate things. Now the outside may come inside, and the inside may and does go outside. They are of each other. Form and function thus become one in design and execution if the nature of materials and method and purpose are all in unison.

This interior-space concept, the first broad integrity, is the first great resource. It is also true basis for general significance of form. Add to this for the sake of clarity that (although the general integration is implied in the first integrity) it is in the nature of any organic building to grow from its site, come out of the ground into the light—the ground itself held always as a component basic part of the building itself. And then we have primarily the new ideal of building as organic. A building dignified as a tree in the midst of nature.

This new ideal for architecture is, as well, an adequate ideal for our general culture. In any final result there can be no separation between our architecture and our culture. Nor any separation of either from our happiness. Nor any separation from our work.

Thus in this rise of organic-integration you see the means to end the petty agglomerations miscalled civilization. By way of this old yet new and deeper sense of reality we may have a civilization. In this sense we now recognize and may declare by way of plan and building—the *natural*. Faith in the *natural* is the faith we now need to grow up on in this coming age of our culturally confused, backward twentieth century. But instead of "organic" we might well say "natural" building. Or we might say integral building.

So let us now consider the second of the five new resources: glass. This second resource is new and a "super-material" only because it holds such amazing means in modern life for awakened sensibilities. It amounts to a new qualification of life in itself. If known in ancient times glass would then and there have abolished the ancient architecture we know, and completely. This super-material *glass* as we now use it is a miracle. Air in air to keep air out or keep it in. Light itself in light, to diffuse or reflect, or refract light itself.

By means of glass, then, the first great integrity may find prime means of realization. Open reaches of the ground may enter as the building and the building interior may reach out and associate with these vistas of the ground. Ground and building will thus become more and more obvious as directly related to each other in openness and intimacy; not only as environment but also as a good pattern for the good life lived in the building. Realizing the benefits to human life of the far-reaching implications and effects of the first great integrity: let us call it the interior-space concept. This space interior realization is possible and it is desirable in all the vast variety of characteristic buildings needed by civilized life in our complex age.

By means of glass something of the freedom of our arboreal ancestors living in their trees becomes a likely precedent for freedom in twentieth century life, than the cave.

Savage animals "holing in" for protection were more characteristic of life based upon the might of feudal times or based upon the so-called "classical" in architecture which were in turn based upon the labor of the chattel slave. In a free country, were we ourselves free by way of organic thought buildings might come out into the light without more animal fear; come entirely away from the pagan ideals of form we dote upon as "Classic." Or what Freedom have we?

Perhaps more important than all beside, it is by way of glass that the sunlit space as a reality becomes the most useful servant of a higher order of the human spirit. It is first aid to the sense of cleanliness of form and idea when directly related to free living in air and sunlight. It is this that is coming in the new architecture. And with the integral character of extended vistas gained by marrying buildings with ground levels, or blending them with slopes and gardens; yes, it is in this new sense of earth as a great human *good* that we will move forward in the building of our new homes and great public buildings.

I am certain we will desire the sun, spaciousness, and integrity of means-to-ends more year by year as we become aware of the possibilities I have outlined. The more we desire the sun, the more we will desire the freedom of the good ground and the sooner we will learn to understand it. The more we value integrity, the more securely we will find and keep a worthwhile civilization to set against prevalent abuse and ruin.

Congestion will no longer encourage the "space-makers for rent." The "space-maker for rent" will himself be "for rent" or let us hope "vacant." Give him ten years.

These new space values are entering into our ideas of life. All are appropriate to the ideal that is our own, the ideal we call Democracy.

A new reality: glass

A resource to liberate this new sense of interior space as reality is this new qualification called glass: a super-material qualified to qualify us; qualify us not only to escape from the prettified cavern of our present domestic life as also from the cave of our past, but competent actually to awaken in us the desire for such far-reaching simplicities of life as we may see in the clear countenance of nature. Good building must ever be seen

as in the nature of good construction, but a higher development of this "seeing" will be construction seen as nature-pattern. *That* seeing, only, is inspired architecture.

This dawning sense of the *Within* as *reality* when it is clearly seen as *Nature* will by way of glass make the garden be the building as much as the building will be the garden: the sky as treasured a feature of daily indoor life as the ground itself.

You may see that walls are vanishing. The cave for human dwelling purposes is at last disappearing.

Walls themselves because of glass will become windows and windows as we used to know them as holes in walls will be seen no more. Ceilings will often become as window-walls, too. The textile may soon be used as a beautiful overhead for space, the textile an attribute of genuine architecture instead of decoration by way of hangings and upholstery. The usual camouflage of the old order. Modern integral floor heating will follow integral lighting and standardized unitary sanitation. All this makes it reasonable and good economy to abolish building as either a hyper-boxment or a super-borough.

Haven't senseless elaboration and false mass become sufficiently insulting and oppressive to our intelligence as a people? And yet, senseless elaboration and false mass were tyrannical as "conspicuous waste" in all of our nineteenth century architecture either public or private! Wherever the American architect, as scholar, went he "succeeded" to that extent.

Another reality: continuity

But now, as third resource, the resource essential to modern architecture destined to cut down this outrageous mass-waste and mass-lying is the principle of continuity. I have called it tenuity. Steel is its prophet and master. You must come with me for a moment into "engineering" so called. This is to be an unavoidable strain upon your kind attention. Because, unfortunately, gentle reader, you cannot understand architecture as *modern* unless you do come, and—paradox—you can't come if you are too well educated as an engineer or as an architect either. So your common sense is needed more than your erudition.

However, to begin this argument for steel: classic architecture knew only the post as an upright. Call it a column. The classics knew only the beam as a *horizontal.* Call it a beam. The beam resting upon the upright, or column, was structure throughout, to them. Two things, you see, one thing set on top of another thing in various materials and put there in various ways. Ancient, and nineteenth century building science too, even building *à la mode,* consisted simply in reducing the various stresses of all materials and their uses to these two things: post and beam. Really, construction used to be just sticking up something in wood or stone and putting something else in wood or stone (maybe iron) on top of it: simple superimposition, you see? You should know that all "Classic" architecture was and still is some such form of direct superimposition. The arch is a little less so, but even that must be so "figured" by the structural engineer if you ask him to "figure" it.

Now the Greeks developed this simple act of super-imposition pretty far by way of innate tasteful refinement. The Greeks were true aestheticians. Roman builders too, when they forgot the Greeks and brought the beam over as a curve by way of the arch, did something somewhat new but with consequences still of the same sort. But observe, all architectural features made by such "Classic" agglomeration were killed for us by cold steel. And though millions of classic corpses yet encumber American ground unburied, they are ready now for burial.

Of course this primitive post-and-beam construction will always be valid, but both support and supported may now by means of inserted and welded steel strands or especially woven filaments of steel and modern concrete casting be plaited and united as one physical body: ceilings and walls made one with floors and reinforcing each other by making them continue into one another. This Continuity is made possible by the tenuity of steel.

So the new order wherever steel or plastics enter construction says: weld these two things, post and beam (wall and ceiling) together by means of steel strands buried and stressed within the mass material itself, the steel strands electric-welded where steel meets steel within the mass. In other words the upright and horizontal may now be made to work together as one. A new world of form opens inevitably.

Where the beam leaves off and the post begins is no longer important nor need it be seen at all because it no longer actually *is.* Steel in tension enables the support to slide into the supported, or the supported to grow into the support somewhat as a tree-branch glides out of its tree trunk. Therefrom arises the new series of interior physical reactions I am calling "Continuity." As natural consequence the new aesthetic or appearance we call *Plasticity* (and plasticity is peculiarly "modern") is no longer a mere appearance. Plasticity actually becomes the normal *countenance,* the *true aesthetic* of genuine structural reality. These interwoven steel strands may so lie in so many directions in any extended member that the extensions may all be economical of material and though much lighter, be safer construction than ever before. There as in the branch of the tree you may see the cantilever. The cantilever is the simplest one of the important phases of this third new structural resource now demanding new significance. It has yet had little attention in architecture. It can do remarkable things to liberate space.

But plasticity was modest new countenance in our American architecture at least thirty-five years ago in my own work, but then denied such simple means as welding and the mesh. It had already eliminated all the separate identities of post and beam in architecture. Steel in tension enters now by way of mesh and welding to arrive at actual, total plasticity if and when desired by the architect. And to prove the philosophy of organic architecture, form and function are one, it now enters architecture as the *aesthetic countenance* of *physical reality.*

To further illustrate this magic simplifier we call "plasticity" see it as flexibility similar to that of your own hand. What makes your hand expressive? Flowing continuous line and continuous surfaces seen continually mobile of the articulate articulated structure of the hand as a whole. The line is seen as "hand" line. The varying planes seen as "hand" surface. Strip the hand to the separate structural identities of joined bones (post and beam) and plasticity as an expression of the hand would disappear. We would be then getting back to the joinings, breaks, jolts, and joints of ancient, or "Classic," architecture; thing to thing; feature to feature. But plasticity is the reverse of that ancient agglomeration and is the ideal means behind these simplified free new effects of straight line and flat plane.

I have just said that plasticity in this sense for thirty-five years or more has been the recognized aesthetic ideal for such simplification as was required by the machine to do organic work. And it is true of my own work.

As significant outline and expressive surface, this new aesthetic of plasticity (physical continuity) is now a useful means to form the supreme physical-body of an organic, or integral, American Architecture.

Of course, it is just as easy to cheat by simplicity as it is to cheat with "classical"

structure. So, unluckily, here again is the "modernistic" architectural picture-maker's deadly facility for imitation at ease and again too happy with fresh opportunity to "fake effects." Probably another Renaissance is here imminent.

Architecture is now integral architecture only when Plasticity is a genuine expression of actual construction just as the articulate line and surface of the hand is articulate of the structure of the hand. Arriving at steel, I first used Continuity as actual stabilizing principle in concrete slabs, and in the concrete ferro-block system I devised in Los Angeles.

In the form of the cantilever or as horizontal continuity this new economy by means of tenuity is what saved the Imperial Hotel from destruction during the great earthquake of 1922. It did not appear in the grammar of the building for various reasons, chiefly because the building was to look somewhat as though it belonged to Tokyo.

Later, in the new design for St. Mark's Tower, New York City, this new working principle economized material, labor, and liberated or liberalized space in a more developed sense. It gave to the structure the significant outlines of remarkable stability and instead of false masonry-mass significant outlines came out. The abstract pattern of the structure as a complete structural-integrity of Form and Idea may be seen fused as in any tree but with nothing imitating a tree.

Continuity invariably realized remarkable economy of labor and building materials as well as peace. Unfortunately there is yet little or no data to use as tabulation. Tests will have to be made continually for many years to make the record available to slide-rule engineers.

In the ancient order there was little thought of economy of materials. The more massive the whole structure looked, the better it looked to the ancients. But seen in the light of these new economic interior forces conserved by the tensile strength of a sheet of plastic or any interweaving of strands of steel in this machine age, the old order was as sick with weight as the Buonarotti dome. Weak . . . because there could be no co-interrelation between the two elements of support and supported to reinforce each other as a whole under stress or elemental disturbance.

So this tremendous new resource of *tenuity*—a quality of steel—this quality of *pull* in a building (you may see it ushering in a new era in John Roebling's Brooklyn Bridge) was definitely lacking in all ancient architecture because steel had not been born into building.

The tenuous strand or slab as a common means of strength had yet to come. Here today this element of continuity may cut structural substance nearly in two. It may cut the one half in two again by elimination of needless features, such elimination being entirely due to the simplification I have been calling "plasticity."

It is by utilizing mass production in the factory in this connection that some idea of the remarkable new economics possible to modern architecture may be seen approaching those realized in any well-built machine. If standardization can be humanized and made flexible in design and the economics brought to the home owner, the greatest service will be rendered to our modern way of life. It may be really born—This democracy I mean.

Involved as a matter of design in this mass production, however, are the involute, all but involuntary reactions to which I have just referred: the ipso facto building code and the fact that the building engineer as now trained knows so little about them. However, the engineer is learning to calculate by model-making in some instances—notably Professor Beggs at Princeton University.

The codes so far as I can see will have to die on the vine with the men who made them.

Materials for their own sake

As the first integrity and the two first new resources appeared out of the interior nature of the kind of building, called Architecture—so now—naturally interior to the true nature of any good building comes the fourth new resource. This is found by recognizing the nature of the materials used in construction.

Just as many fascinating different properties as there are different materials that may be used to build a building will continually and naturally qualify, modify, and utterly change all architectural form whatsoever.

A stone building will no more be nor will it look like a steel building. A pottery, or terra cotta building, will not be nor should it look like a stone building. A wood building will look like none other, for it will glorify the stick. A steel and glass building could not possibly look like anything but itself. It will glorify steel and glass. And so on all the way down the long list of available riches in materials: Stone, Wood, Concrete, Metals, Glass, Textiles, Pulp, and Plastics; riches so great to our hand today that no comparison with Ancient Architecture is at all sensible or anything but obstruction to our Modern Architecture.

In this particular, as you may see, architecture is going back to learn from the natural source of all natural things.

In order to get Organic architecture born, intelligent architects will be forced to turn their backs on antique rubbish heaps with which Classic eclecticism has encumbered our new ground. So far as architecture has gone in my own thought it is first of all a character and quality of mind that may enter also into human conduct with social implications that might, at first, confound or astound you. But the only basis for any fear of them lies in the fact that they are all sanely and thoroughly *constructive.*

Instinctively all forms of pretense fear and hate reality. *The hypocrite must always hate the radical.*

This potent fourth new resource—the Nature of Materials—gets at the common center of every material in relation to the work it is required to do. This means that the architect must again begin at the very beginning. Proceeding according to Nature now he must sensibly go through with whatever material may be in hand for his purpose according to the methods and sensibilities of a man in this age. And when I say Nature, I mean inherent *structure* seen always by the architect as a matter of complete design. It is in itself, always, *nature-pattern.* It is this profound internal sense of materials that enters in as Architecture now. It is this the fifth new resource that must captivate and hold the mind of the modern architect to creative work. The fifth will give new life to his imagination if it has not been already killed at school.

And, inevitable implication! New machine age resources require that all buildings do not resemble each other. The new ideal does not require that all buildings be of steel, concrete, or glass. Often that might be idiotic waste.

Nor do the resources even *imply* that mass is no longer a beautiful attribute of masonry materials when they are genuinely used. We are entitled to a vast variety of form in our complex age so long as the form be genuine—serves Architecture and Architecture serves life.

But in this land of ours, richest on earth of all in old and new materials, architects must exercise well-trained imagination to see in each material, either natural or compounded plastics, their own *inherent style.* All materials may be beautiful, their beauty much or entirely depending upon how well they are used by the Architect.

In our modern building we have the Stick. Stone. Steel. Pottery. Concrete. Glass. Yes, Pulp, too, as well as plastics. And since this dawning sense of the "within" is the

new reality, these will all give the main *"motif"* for any real building made from them. The materials of which the building is built will go far to determine its appropriate mass, its outline, and, especially, proportion. Character is criterion in the form of any and every building or industrial product we can call Architecture in the light of this new ideal of the new order.

The new integrity

Strange! At this late date, it is modern architecture that wants life to learn to see life as life, because architecture must learn to see brick as brick, learn to see steel as steel, see glass as glass. So modern thought urges all of life to demand that a bank look like a bank (bad thought though a bank might become) and not depend upon false columns for credit. The new architecture urges all of life to demand that an office building look like an office building, even if it should resemble the cross section of a beehive. Life itself should sensibly insist in self-defense that a hotel look and conduct itself like a hotel and not like some office building. Life should declare, too, that the railroad station look like a railroad station and not try so hard to look like an ancient temple or some monarchic palazzo. And while we are on this subject, why not a place for opera that would look something like a place for opera—if we must have opera, and not look so much like a gilded, crimsoned bagnio. Life declares that a filling station should stick to its work as a filling station: look the part becomingly. Why try to look like some Colonial diminutive or remain just a pump on the street. Although "just a pump" on the street is better than the Colonial imitation. The good Life itself demands that the school be as generously spaced and a thought-built good-time place for happy children: a building no more than one story high—with some light overhead, the school building should regard the children as a garden in sun. Life itself demands of Modern Architecture that the house of a man who knows what home is should have his own home his own way if we have any man left in that connection after F.H.A. is done trying to put them, all of them it can, into the case of a man who builds a home only to sell it. Our Government forces the home-maker into the real-estate business if he wants a home at all.

Well, after all, this line of thought was all new-type common sense in architecture in Chicago only thirty years ago. It began to grow up in my own work as it is continuing to grow up more and more widely in the work of all the world. But, insulting as it may seem to say so, nor is it merely arrogant to say that the actual thinking in that connection is still a novelty, only a little less strange today than it was then, although the appearances do rapidly increase.

Integral ornament at last!

At last, is this fifth resource, so old yet now demanding fresh significance. We have arrived at integral ornament—the nature-pattern of actual construction. Here, confessed as the spiritual demand for true significance, comes this subjective element in modern architecture. An element so hard to understand that modern architects themselves seem to understand it least well of all and most of them have turned against it with such fury as is born only of impotence.

And it is true that this vast, intensely human significance is really no matter at all for any but the most imaginative mind not without some development in artistry and the *gift* of a sense of proportion. Certainly we must go higher in the realm of imagination when we presume to enter here, because we go into Poetry.

Now, very many write good prose who cannot write poetry at all. And although

staccato specification is the present fashion, just as "functionalist" happens to be the present style in writing—poetic prose will never be undesirable. But who condones prosaic poetry? None. Not even those fatuously condemned to write it.

So, I say this fourth new resource and the fifth demand for new significance and integrity is ornament *integral to building as itself poetry.* Rash use of a dangerous word. The word "Poetry" *is* a dangerous word.

Heretofore, I have used the word "pattern" instead of the word ornament to avoid confusion or to escape the passing prejudice. But here now ornament is in its place. Ornament meaning not only *surface qualified by human imagination but imagination* giving *natural pattern* to structure. Perhaps this phrase says it all without further explanation. This resource—integral ornament—is new in the architecture of the world, at least insofar not only as imagination qualifying a surface—a valuable resource—but as a greater means than that: *imagination giving natural pattern to structure itself.* Here we have new significance, indeed! Long ago this significance was lost to the scholarly architect. A man of taste. He, too soon, became content with symbols.

Evidently then, this expression of structure as a pattern true to the nature of the materials out of which it was made, may be taken much further along than physical need alone would dictate? "If you have a loaf of bread break the loaf in two and give the half of it for some flowers of the Narcissus for the bread feeds the body indeed but the flowers feed the soul."

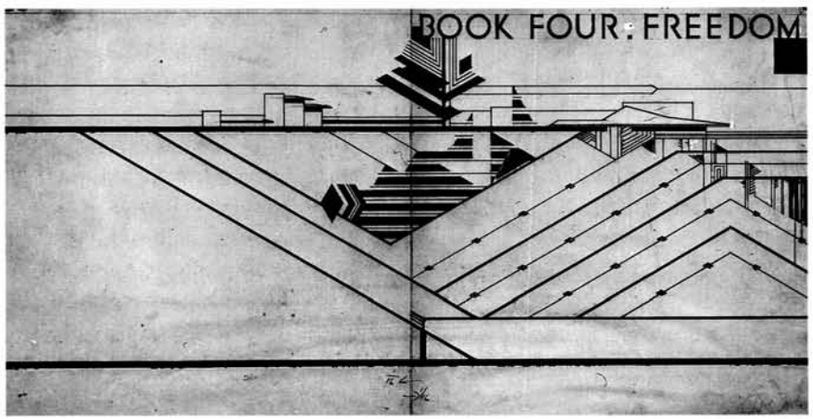
Into these higher realms of imagination associated in the popular mind as sculpture and painting, buildings may be as fully taken by modern means today as they ever were by craftsmen of the antique order.

It is by this last and poetic resource that we may give greater structural entity and greater human significance to the whole building than could ever be done otherwise. This statement is heresy at this left-wing moment, so—we ask, "taken how and when taken?" I confess you may well ask, by whom? The answer is, taken by the true *poet.* And where is this Poet today? Time will answer.

Yet again in this connection let us remember Ong's Chinese observation, "Poetry is the sound of the heart." So, in the same uncommon sense integral ornament is the developed sense of the building as a whole, or the manifest *abstract pattern of structure itself.* Interpreted. Integral ornament is simply *structure-pattern made visibly articulate* and seen in the building as it is seen articulate in the structure of the trees or a lily of the fields. It is the expression of inner rhythm of Form. Are we talking about Style? Pretty nearly. At any rate, we are talking about the qualities that make *essential architecture* as distinguished from any mere act of building whatsoever.

What I am here calling integral-ornament is founded upon the same organic simplicities as Beethoven's *Fifth Symphony,* that amazing revolution in tumult and splendor of sound built on four tones based upon a rhythm a child could play on the piano with one finger. Supreme imagination reared the four repeated tones, simple rhythms, into a great symphonic poem that is probably the noblest thought-built edifice in our world. And Architecture is like Music in this capacity for the symphony.

But concerning higher development of building to more completely express its life principle as significant and beautiful, let us say at once by way of warning: it is better to die by the wayside of left-wing Ornaphobia than it is to build any more merely ornamented buildings, as such; or to see right-wing architects die any more ignoble deaths of *Ornamentia.* All period and pseudoclassic buildings whatever, and (although their authors do not seem to know it) most protestant buildings, they call themselves



["Great Highway and Field of Decentralization." Original design for title spread of "Book Four. Freedom," as published in Frank Lloyd Wright, An Autobiography, *between pp. 299 and 301. Courtesy of the Frank Lloyd Wright Foundation.]*

internationalist, are really ornamental in definitely objectionable sense. A plain flat surface cut to shape for its own sake, however large or plain the shape, is, the moment it is sophisticatedly so cut, no less ornamental than egg-and-dart. All such buildings are objectionably "ornamental," because like any buildings of the old classical order both wholly ignore the *nature* of the *first* integrity. Both also ignore the four resources and both neglect the nature of machines at work on materials. Incidentally and as a matter of course both misjudge the nature of time, place, and the modern life of man.

Here in this new leftish emulation as we now have it, is only the "istic," ignoring principle merely to get the "look" of the machine or something that looks "new." The province of the "ite."

In most so-called "internationalist" or "modernistic" building therefore we have no true approach to organic architecture: we have again merely a new, superficial aesthetic trading upon that architecture because such education as most of our architects possess qualifies them for only some kind of eclecticism past, passing, or to pass.

Nevertheless I say, if we can't have buildings with integrity we would better have more imitation machines for buildings until we can have truly sentient architecture. "The machine for living in" is sterile, but therefore it is safer, I believe, than the festering mass of ancient styles.

Great power

A far greater power than slavery, even the intellectual slavery as in the school of the Greeks, is back of these five demands for machine-age significance and integrity. Stupendous and stupefying power. That power is the leverage of the machine itself. As now set up in all its powers the machine will confirm these new implicities and complicities in architecture at every point, but will destroy them soon if not checked by a new simplicity.

The proper use of these new resources demands that we use them all together with integrity for mankind if we are to realize the finer significances of life. The finer significance, prophesied if not realized by organic architecture. It is reasonable to believe that life in our country will be lived in full enjoyment of this new freedom of the extended horizontal line because the horizontal line now becomes the great architectural highway. The flat plane now becomes the regional field. And integral-pattern becomes "the sound of the Usonian heart." The cover-graph of this book, I have called it "Freedom," uses the great highway and the regional field of decentralization, uses it as a significant pattern.

I see this extended horizontal line as the true earth-line of human life, indicative of freedom. Always.

The broad expanded plane is the horizontal plane infinitely extended. In that lies such freedom for man on this earth as he may call his.

1943

In the 1940s Swedish architecture was watched closely by architects elsewhere in the world. Having remained neutral during the war, Sweden continued to build—although in reduced circumstances—at a time when architecture in most other European countries had come to a standstill. International functionalism, espoused by six of Sweden's leading architects in 1931 in their manifesto *Acceptera*, had belatedly overtaken the country in the early 1930s. By the end of the decade, however, a reaction had occurred in both domestic and public architecture against an overly rigid and formalistic interpretation of *funkis*. The new watchword was *spontanietet*, signifying a more naturalistic, informal way of working. The seminal work was Erik Gunnar Asplund's last major project before his death, Woodland Crematorium near Stockholm (1935–40). Also exemplary of the new manner were Asplund's summer house, Stennäs, in Lisön, Sorunda (1937); Sven Markelius's Swedish pavilion at the New York World's Fair (1939); and Sune Lindström's Town Hall and Hotel at Karlskoga (1940).

Nowhere did this architecture find as warm a reception as in England, where building and town planning would be as tightly controlled by the welfare state as in Sweden and where a temperamental affinity was felt with the Swedes' commonsensical, down-to-earth, empirical approach. In September 1943
114–20
Architectural Review, having become the style's major exponent, devoted a special issue to "Swedish Peace in War," in which a selection of work appeared that had been designed and built since 1939. In their introductory note the editors declared, "Swedish housing is the most progressive in Europe in its social organization. The Cooperatives build better than anywhere else. Most buildings, especially the smaller accessory ones, are pleasant, lighthearted, almost playful, and yet strictly contemporary. A few larger public buildings have achieved a true monumentality in terms of the twentieth century. Detail is as generally sensitive as any of the eighteenth century. And even where, as sometimes occurs even in Sweden, the design of the buildings is not particularly distinguished, the way they are placed on the site and set off with rocks and conifers or silver birch—the way in fact they are landscaped—provides an object lesson for the English town planner and landscape architect." In June 1947 the *Review* coined the label "New Empiricism" to describe this style. Eric de Maré's article in the *Review* of January 1948, "The New Empiricism: The Antecedents and Origins of Sweden's Latest Style" followed. So pervasive was the influence
242–48
of Swedish architecture over the next decade that the architect James Stirling was once led to comment in exasperation, "William Morris was a Swede."

Sven Backström, one of the most talented members of the younger generation of Swedish architects, was invited to contribute the following article to the "Peace in War" issue. In the 1940s and 1950s Backström and his partner Leif Reinius designed a number of important housing estates. Their Gröndal scheme in Stockholm of 1944–45 was an arrangement of star-shaped low-rise blocks, offering a honeycomb of intimate and sheltered courtyards and making economical use of the available land. The architects reused this plan type in their Örebro housing (1948–50), disposing the blocks more naturalistically in the landscape. In a subsequent article on Swedish housing entitled "Now—and After" (published in *Swedish Housing of the 'Forties*, 1950), Backström noted the "complete change" in conception that had occurred since the 1930s from the indefiniteness of the open plan to spatial enclosure: "People are no longer disposed to make their bed on the balcony of a living room or to work in a study which is open to view from outside because of its wide expanse of glass."

From Architectural Review, *September 1943, p. 80. Courtesy of the author and* Architectural Review.

A Swede Looks at Sweden

Sven Backström

Although Sweden has so far managed to keep out of the war, it has, of course, affected us in various ways. Social and economic changes are taking place, and the isolation from which we suffer is very keenly felt. Imports have diminished, and a number of goods have disappeared from the market altogether. This is not least noticeable in the building trade. Iron girders, copper, asphalt, and much else are almost unobtainable. We are obliged to have recourse to home goods such as timber, bricks, cement, and iron for the reinforcement of concrete. The chief reason for their use, however, is that they do not require too much fuel for their production, since coal, being one of the items on our import list, is scarce.

The limitation of material has naturally had its effect on building. The war has also entailed limitations of another kind for building. The scarcity of material and labor has made it necessary to confine all civil building to a minimum. This means, for us, that factories and perhaps in the first place dwellings are what is chiefly built. There is much building of small unattached cottages, small flats, and to some slight extent also attached houses in rows and a few residential hotels.

Dwellings of the kind here referred to must of course be made cheap. By rationalization and standardizing we have tried to keep costs as low as possible. But the state and the municipalities have been obliged to grant loans at low interest so that flats may be let at reasonable prices. This has also made it possible to exercise a certain control. Thus, for example, the following minimum sizes of flats have of recent years become increasingly general.

Single room	18–24 square meters
One room and kitchen	33–39
Two rooms and kitchen	43–49
Three	58–65
Four	71–79
Five	87

As regards small cottages, these are as a rule made of wood on a concrete foundation. They contain two to four rooms and kitchen, in exceptional cases five rooms and kitchen. Dwellings for land workers also come under this category.

The flats are in three-story so-called "narrow houses" of brick. The depth of the house varies from 7 to 10 meters. The greater depth is from the fuel point of view more economical, so the house depth generally adopted today is 9 to 10 m. The type of flat varies from one room and kitchen to three rooms and kitchen, sometimes even four rooms and a kitchen.

Attached houses in rows are not common in this country. The Swede likes to live in his own cottage and to be able to walk all round it; and if this is not possible he generally prefers to take a flat in a big block. Of recent years, however, such prejudices have been slackening their grip, and a number of good designs have been achieved.

But apart from this development, which has been imposed on us by external factors, our architecture has a line of development to show, as it were, from within. In order to understand this rightly we must go back a matter of some ten years. It was in 1930 that Erik Gunnar Asplund created the Stockholm Exhibition at

Djurgardsbrunnsviken. This meant for us that the new impulses from France and Germany were in a masterly way translated and developed in the Swedish milieu and adapted to the Swedish national temperament. This was the victorious debut of functionalism in Sweden. The new ideas swept over us like an avalanche and were adopted especially by the younger generation. A clean break was made with the past. There was a determination to clear away all false romanticism and all designing in historical styles. There was a feeling that one was building for new ideal human beings, who were quite different from the older generations. The modern mode of life was considered to be completely new, and consequently the new houses were to be absolutely different from the old ones. Everything connected with tradition was suspect. Architecture was to be objective. The functionalistic principle was the guiding star and everything was to be built in the material of "our time," glass, concrete, and iron, and the building had primarily to be right from the point of view of construction. In one word, the architect was to be an engineer.

The years passed, and one "objective" house after the other stood ready for use. It was then that people gradually began to discover that the "new objectivity" was not always so objective, and the houses did not always function so well as had been expected. The big windows, for example, were all too effective as heat conductors, and people found it difficult to accustom themselves to the heat or cold behind them. They also felt the lack of many of the aesthetic values and the little contributions to coziness that we human beings are so dependent on, and that our architectural and domestic tradition had nevertheless developed. It was difficult to settle down in the new houses because the "new" human beings were not so different from the older ones. It was found that one could not with impunity break out of the natural course of development. It was realized that one had to build for human beings as they are, and not as they ought to be. And for a true understanding of our fellows both the feeling and the knowledge of the artist are essential conditions. It is not sufficient for the architect to be an engineer; he must also be an artist.

Architecture began to seek its way on new roads. Architects began to develop an ear for the shifting values and phases of actual life. Man was once more to become the point of departure and the criterion. And it was discovered that man is a highly complicated phenomenon that is not to be satisfied or understood with the help of any new epoch-making formulae. And one result of this growing insight was a reaction against the all too schematic architecture of the 1930s. Today we have reached the point where all the elusive psychological factors have again begun to engage our attention. Man and his habits, reactions, and needs are the focus of interest as never before. One tries to understand them, and to adapt the building in such a way that it really serves. And there is the desire to enrich it and beautify it in a living way, so that it may be a source of joy. The striving is for the true proportion—the neither too much nor too little. But with the delight in experiment that is part of the Swedish temperament, architecture has already tended to a much too exaggerated differentiation and division. This tendency to lose oneself in petty details of various kinds leads one to forget the whole, and simplicity. People sometimes actually need instructions before they can live in the houses!

The goal must be to reach the essential, the simple, and the objective things in architecture. We want, certainly, to retain all the positive aspects of what the 1930s gave us. A house should of course function properly and be rational in its design. But at the same time we want to reintroduce the valuable and living elements in architecture

that existed before 1930, and we want to add to this our own personal contribution. To interpret such a program as a reaction and a return to something that is past and to pastiches is definitely to misunderstand the development of architecture in this country. Something that to a certain extent leads to a confusion of ideas is perhaps the forced return to building materials and methods of construction that the architecture of the thirties did not need to reckon with, and that for the younger generation of architects are perhaps unknown.

If in our democratic community architecture is allowed to progress without too great interference from without, it should be in a position to develop into a functionalism fulfilling the best and deepest requirements of the term.

1944

Louis Kahn's contribution to the debate on monumentality already joined by José Luis Sert, Fernand Léger, and Sigfried Giedion with their "Nine Points on Monumentality" was published in Paul Zucker's *New Architecture and City Planning* together with five other papers on the same subject, including a new essay by Giedion. It was Kahn's first extended theoretical statement. If Giedion had drawn a lesson from the war concerning the symbolic and emotional values of civic architecture, the younger architect found a different one in its "engineering achievements in concrete, steel, and wood." What impressed Kahn were the "added powers" that the new structural resources could afford architecture.

27–30

In Kahn's definition, monumentality, characteristic of the great architecture of past ages, was "a spiritual quality inherent in a structure which conveys the feeling of its eternity, that it cannot be added to or changed." At the time of this writing Kahn was associated in practice with George Howe and Oscar Stonorov. Having accepted International Style modernism in the early 1930s, he had mainly built social housing during the years of the New Deal and the war and designed little in the way of large-scale public architecture. His earlier schooling, however, had had a profound impact on him. Under the Beaux-Arts architect Paul Cret at the University of Pennsylvania, he had absorbed the lessons of rational engineering and historical form. In approaching the question of monumentality, Kahn now synthesized both inputs. A new monumentality, he concluded, could arise only by reinterpreting historical concepts of construction in light of contemporary technical possibilities.

Kahn argues that architecture's historical development led it from the compressive stone construction of Greco-Roman antiquity up to the dematerialized structural skeleton of the Gothic cathedral, a point it could not go beyond without collapsing (like Beauvais Cathedral, which he draws "after" Auguste Choisy, an important influence on his work from this date). It was the tubular steel frame, welded and capable of enormous spans, "worthy of being exposed," that now held the promise of a new expressiveness, in his view, even surpassing the monumentality of Greco-Gothic construction: "Beauvais Cathedral needed the steel we have." His sketch of a giant welded-steel arcade on axis to an idealized cultural center illustrates the point.

Although Kahn's emphasis on the potential of lightweight structures seems uncharacteristic of the more massive classicism he was to pursue later in his career, it presages the sculptural space frame of his Philadelphia City Tower project, designed in 1954 with Anne Tyng. Significantly, he rejects the implication in Giedion's argument that monumentality can be created intentionally, advancing a theory that recalls (consciously or not) Alois Riegl's *Kunstwollen*. Monuments, Kahn states, are historical manifestations of "the desires, the aspirations, the love and hate" of an epoch. In later writings he would speak of an "existence will" of architectural form, what a building "wants to be."

270–72

While acknowledging that past monuments "cannot live again with the same intensity and meaning," Kahn affirms that their greatness and didactic value remain. His structural-historicist interpretation of the monument not only looks forward to a central theme of his own work, but anticipates the reprise of the monumentality question in the 1970s in the debate over postmodernism—a debate in which his work figures as an essential point of reference.

From Paul Zucker, ed., New Architecture and City Planning *(New York: Philosophical Library, Inc., 1944), pp. 577–88.*

Monumentality
Louis I. Kahn

Gold is a beautiful material. It belongs to the sculptor.

Monumentality in architecture may be defined as a quality, a spiritual quality inherent in a structure which conveys the feeling of its eternity, that it cannot be added to or changed. We feel that quality in the Parthenon, the recognized architectural symbol of Greek civilization.

Some argue that we are living in an unbalanced state of relativity which cannot be expressed with a single intensity of purpose. It is for that reason, I feel, that many of our confrères do not believe we are psychologically constituted to convey a quality of monumentality to our buildings.

But have we yet given full architectural expression to such social monuments as the school, the community or culture center? What stimulus, what movement, what social or political phenomenon shall we yet experience? What event or philosophy shall give rise to a will to commemorate its imprint on our civilization? What effect would such forces have on our architecture?

Science has given to the architect its explorations into new combinations of materials capable of great resistance to the forces of gravity and wind.

Recent experimenters and philosophers of painting, sculpture, and architecture have instilled new courage and spirit in the work of their fellow artists.

Monumentality is enigmatic. It cannot be intentionally created. Neither the finest material nor the most advanced technology need enter a work of monumental character for the same reason that the finest ink was not required to draw up the Magna Carta.

However, our architectural monuments indicate a striving for structural perfection which has contributed in great part to their impressiveness, clarity of form, and logical scale.

Stimulated and guided by knowledge we shall go far to develop the forms indigenous to our new materials and methods. It is, therefore, the concern of this paper to touch briefly on the broader horizons which science and skill have revealed to the architect and engineer and sketch the faint outlines of possible structural concepts and expressions they suggest.

No architect can rebuild a cathedral of another epoch embodying the desires, the aspirations, the love and hate of the people whose heritage it became. Therefore the images we have before us of monumental structures of the past cannot live again with the same intensity and meaning. Their faithful duplication is unreconcilable. But we dare not discard the lessons these buildings teach for they have the common characteristics of greatness upon which the buildings of our future must, in one sense or another, rely.

In Greek architecture engineering concerned itself fundamentally with materials in compression. Each stone or part forming the structural members was made to bear with accuracy on each other to avoid tensile action stone is incapable of enduring.

The great cathedral builders regarded the members of the structural skeleton with the same love of perfection and search for clarity of purpose. Out of periods of inexperience and fear when they erected over-massive core-filled veneered walls, grew a courageous theory of stone over stone vault skeleton producing a downward

and outward thrust, which forces were conducted to a column or a wall provided with the added characteristic of the buttress which together took this combination of action. The buttress allowed lighter walls between the thrust points and these curtain walls were logically developed for the use of large glass windows. This structural concept, derived from earlier and cruder theories, gave birth to magnificent variations in the attempts to attain loftier heights and greater spans creating a spiritually emotional environment unsurpassed.

The influence of the Roman vault, the dome, the arch, has etched itself in deep furrows across the pages of architectural history. Through Romanesque, Gothic, Renaissance, and today, its basic forms and structural ideas have been felt. They will continue to reappear but with added powers made possible by our technology and engineering skill.

The engineer of the latter part of the nineteenth century developed from basic principles the formulas of the handbook. Demands of enormous building quantity and speed developed the handbook engineer who used its contents, more or less forgetting basic principles. Now we hear about continuity in structures, not a new word but recently an all-important word in engineering which promises to relegate the handbook to the archives.

The I-beam is an engineering accomplishment deriving its shape from an analysis of stresses involved in its use. It is designed so that the greater proportion of the area of cross section is concentrated as far as possible from the center of gravity. The shape adapted itself to ease of rolling and under test it was found that even the fillets, an aid in the rolling process, helped convey the stresses from one section to another in continuity.

Safety factors were adopted to cover possible inconsistencies in the composition of the material of manufacture. Large-scale machinery and equipment needed in its fabrication lead to standardization.

The combination of safety factors (ignorance factor as one engineer termed it) and standardization narrowed the practice of engineering to the selection of members from handbooks recommending sections much heavier than calculations would require and further limited the field of engineering expression stifling the creation of the more graceful forms which the stress diagrams indicated. For example, the common practice of using an I-beam as a cantilever has no relation to the stress diagram which shows that the required depth of material from the supporting end outward may decrease appreciably.

Joint construction in common practice treats every joint as a hinge which makes connections to columns and other members complex and ugly.

To attain greater strength with economy, a finer expression in the structural solution of the principle of concentrating the area of cross section away from the center of gravity is the tubular form since the greater the moment of inertia the greater the strength.

A bar of a certain area of cross section rolled into a tube of the same area of cross section (consequently of a larger diameter) would possess a strength enormously greater than the bar.

The tubular member is not new, but its wide use has been retarded by technological limitations in the construction of joints. Up until very recently welding has been outlawed by the building codes. In some cases, where it was permitted, it was required to make loading tests for every joint.

Structure designs must discard the present moment coefficients and evolve new

calculations based on the effect of continuity in structures. The structural efficiency of rigid connection, in which the shear value and the resisting moment is at least equal to the values of the supporting member, is obtained by the welding of such connections. The column becomes part of the beam and takes on added duties not usually calculated for columns.

The engineer and architect must then go back to basic principles, must keep abreast with and consult the scientist for new knowledge, redevelop his judgment of the behavior of structures and acquire a new sense of form derived from design rather than piece together parts of convenient fabrication.

Riveted I-beam plate and angle construction is complex and graceless. Welding has opened the doors to vast accomplishments in pure engineering which allows forms of greater strength and efficiency to be used. The choice of structural forms is limitless even for given problems and therefore the aesthetic philosophy of the individual can be satisfied by his particular composition of plates, angles, and tubular forms accomplishing the same answer to the challenge of the forces of gravity and wind.

The ribs, vaults, domes, buttresses come back again only to enclose space in a more generous, far simpler way and in the hands of our present masters of building in a more emotionally stirring way. From stone, the part has become smaller and cannot be seen observed and tested by the scientist through spectroscopy or by photoelastic recordings. His finding may go the architect and engineer in the more elemental form of the formula, but by that means it shall have become an instrumental part of the builder's palette to be used without prejudice or fear. That is the modern way.

Gothic architecture, relying on basically simple construction formulas derived from experience and the material available, could only go so far. Beauvais Cathedral, its builders trying to reach greater spans and height, collapsed.

The compressive stress of stone is measured in hundreds of pounds.

While not only the compressive, but also the bending and tensile stress of steel is measured in thousands of pounds.

Beauvais Cathedral needed the steel we have. It needed the knowledge we have.

Glass would have revealed the sky and become a part of the enclosed space framed by an interplay of exposed tubular ribs, plates, and columns of a stainless metal formed true and faired into a continuous flow of lines expressive of their stress patterns. Each member would have been welded to the next to create a continuous structural unity worthy of being exposed because its engineering gives no resistance to the laws of beauty having its own aesthetic life. The metal would have now been aged into a friendly material protected from deterioration by its intrinsic composition.

This generation is looking forward to its duty and benefit to build for the masses with its problems of housing and health.

It is aware of our outmoded cities.

It accepts the airship as a vital need.

Factories have adopted horizontal assembly and shifting population has required the transformation of large tracts of virgin territory at least temporarily for complete human living.

The building of a complete permanent town was attempted and almost built for the workers at Willow Run.

The nation has adopted the beginnings of social reform.

War production may become normal production on the same scale accepted as sound economics.

Ineffable Space
Le Corbusier

Taking possession of space is the first gesture of living things, of men and of animals, of plants and of clouds, a fundamental manifestation of equilibrium and of duration. The occupation of space is the first proof of existence.

The flower, the plant, the tree, the mountain stand forth, existing in a setting. If they one day command attention because of their satisfying and independent forms, it is because they are seen to be isolated from their context and extending influences all around them. We pause, struck by such interrelation in nature, and we gaze, moved by this harmonious orchestration of space, and we realize that we are looking at the reflection of light.

Architecture, sculpture, and painting are specifically dependent on space, bound to the necessity of controlling space, each by its own appropriate means. The essential thing that will be said here is that the release of aesthetic emotion is a special function of space.

Action of the work (architecture, statue, or painting) on its surroundings: vibrations, cries or shouts (such as originate from the Parthenon on the Acropolis in Athens), arrows darting away like rays, as if springing from an explosion; the near or distant site is shaken by them, touched, wounded, dominated, or caressed. *Reaction of the setting:* the walls of the room, its dimensions, the public square with the various weights of its facades, the expanses or the slopes of the landscape even to the bare horizons of the plain or the sharp outlines of the mountains—the whole environment brings its weight to bear on the place where there is a work of art, the sign of man's will, and imposes on it its deep spaces or projections, its hard or soft densities, its violences or its softnesses. A phenomenon of concordance takes place, as exact as mathematics, a true manifestation of plastic acoustics; thus one may speak of one of the most subtle of all orders of phenomena, sound, as a conveyor of joy (music) or of oppression (racket).

Without making undue claims, I may say something about the "magnification" of space that some of the artists of my generation attempted around 1910, during the wonderfully creative flights of cubism. They spoke of the *fourth dimension* with intuition and clairvoyance. A life devoted to art, and especially to a search after harmony, has enabled me, in my turn, to observe the same phenomenon through the practice of three arts: architecture, sculpture, and painting.

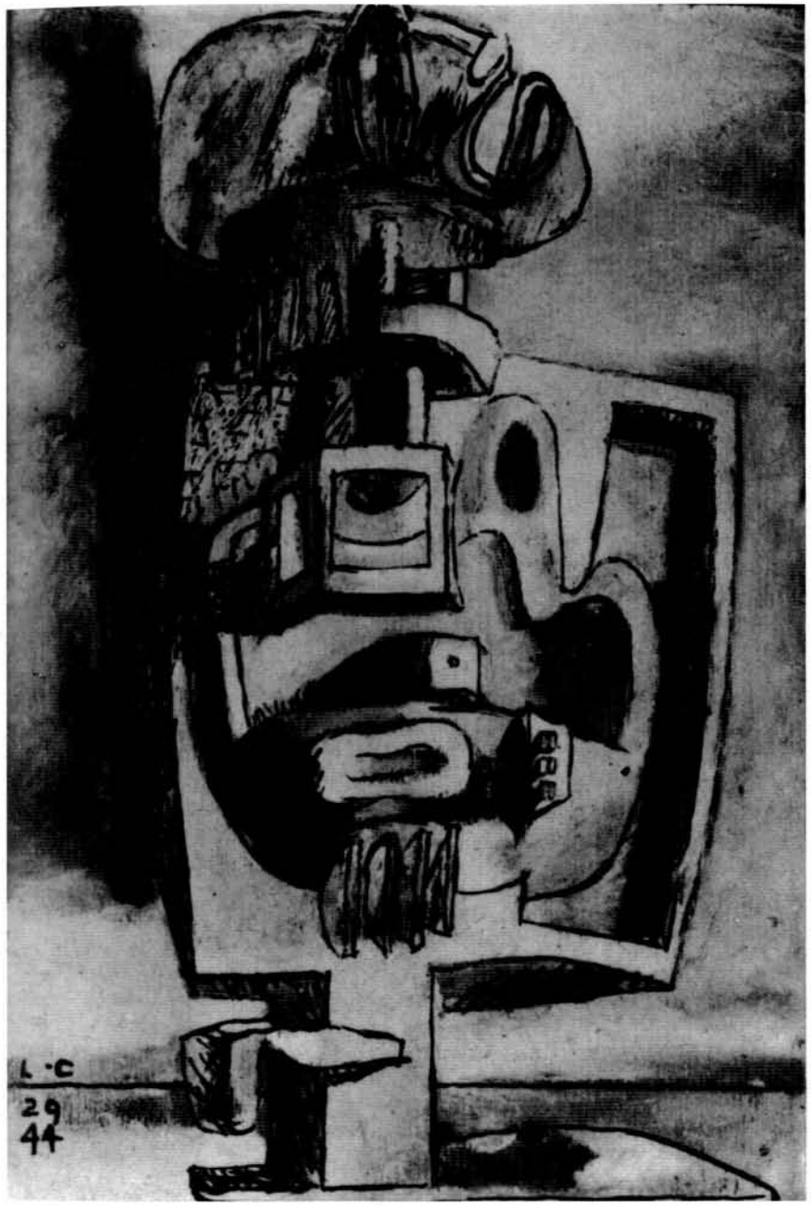
The fourth dimension is the moment of limitless escape evoked by an exceptionally just consonance of the plastic means employed.

It is not the effect of the subject chosen; it is a victory of proportion in everything—the anatomy of the work as well as the carrying out of the artist's intentions whether consciously controlled or not. Achieved or unachieved, these intentions are always existent and rooted in intuition, that miraculous catalyst of acquired, assimilated, even forgotten wisdom. In a complete and successful work there are hidden masses of implications, a veritable world which reveals itself to those whom it may concern, which means: to those who deserve it.

Then a boundless depth opens up, effaces the walls, drives away contingent presences, *accomplishes the miracle of ineffable space.*

I am not conscious of the miracle of faith, but I often live that of ineffable space, the consummation of plastic emotion.

Here I have been allowed to speak as a man of the laboratory, dealing with his personal experiments carried out in the major arts which have been so unfortunately dissociated or separated for a century. Architecture, sculpture, painting: the movement of time and of events now unquestionably leads them toward a synthesis.



[The figure] necessitates the horizon of the ground or architectural walls. Infinite horizon into which the radiant waves are going to sink, architectural walls poised to echo, to bring to life this acoustic time-space phenomenon evoked at the beginning of these notes. [Untitled, but one of the "Ozon" series, oil on wood, 1929/1944. From L'Architecture d'Aujourd'hui, *January 1946, pp. 16–17. Copyright © 1992 ARS, N.Y./SPADEM, Paris.]*

[With Infinite Slowness Arises the Great Form]
Ludwig Mies van der Rohe

[*card 1*]
Ladies and Gentlemen:
The attempt to revitalize the building art from the direction of form has failed. A century's worth of effort has been wasted and leads into the void. That heroic revolution of extremely talented men at the turn of the century had the time span of a fashion. The invention of forms is obviously not the task of the building art. Building art is more and different. Its excellent name already makes it clear that building is its natural content and art its completion.

[*card 2*]
Building, where it became great, was almost always indebted to construction, and construction was almost always the conveyor of its spatial form. Romantic and Gothic demonstrate that in brilliant clarity. Here as there structure expresses the meaning, expresses it down to the last remnant of spiritual value. But if that is so, then it must follow that the revitalization of the building art can only come from construction and not by means of arbitrarily assembled motifs.

[*card 3*]
But construction, that loyal safekeeper of an epoch's spirit, had rejected all that was arbitrary and created an objective basis for new developments. And so it has happened here also. The few authentic structures of our period exhibit construction as a component of building. Building and meaning are one. The manner of building is decisive and of testimonial significance.

[*card 4*]
Construction not only determines form but is form itself. Where authentic construction encounters authentic contents, authentic works result: works genuine and intrinsic. And they are necessary. Necessary in themselves and also as members of a genuine order. One can only order what is already ordered in itself. Order is more than organization. Organization is the determination of function.

[*card 5*]
Order, however, imparts meaning. If we would give to each thing what intrinsically belongs to it, then all things would easily fall into their proper place; only there they could really be what they are and there they would fully realize themselves. The chaos in which we live would give way to order and the world would again become meaningful and beautiful.

[*card 6*]
But that means to let go of the self-will and do the necessary. To articulate and realize the timely and not prevent what wants to and must become.

[*card 7*]
In other words: serve rather than rule. Only those who know how hard it is to do even simple things properly can respect the immensity of the task. It means to persevere

humbly, renounce effects, and do what is necessary and right with loyalty.

[*card 8*]
Only yesterday one spoke of the eternal forms of art, today one speaks of its dynamic change. Neither is right. Building art is beholden neither to the day nor to eternity, but to the epoch. Only a historical movement offers it space for living and allows it to fulfill itself. Building art is the expression of what historically transpires. Authentic expression of an inner movement.

[*card 9*]
Fulfillment and expression of something immanent. This may also be the reason why the nineteenth century failed. Unsuspected and deep beneath all the confused attempts of that time ran the quiet current of change, fed by forces of a world that was intrinsically already different, and a jungle of new forms broke out. Unusual and of wild power. The world of technical forms; large and forceful.

[*card 10*]
Genuine forms of a genuine world. Everything else that occurred looked, next to that, pale and marginal. Technology promises both power and grandeur, a dangerous promise for man who has been created for neither one nor the other. Those who are truly responsible feel depressed and respond to this promise by searching for the dignity and value of technology.

[*card 11*]
Is the world as it presents itself bearable for man?
More: is it worthy of man or too lowly?
Does it offer room for the highest form of human dignity?
Can it be shaped so as to be worthwhile to live in?

[*card 12*]
And finally: is the world noble enough to respond to man's duty to erect a high and magnanimous order? These are questions of immense weight. One can quickly affirm them and quickly negate them, and one has done that.

[*card 13*]
To the careful, however, beyond all prejudices and misjudgments, technology appears as a world which is what it is, specific and narrow, dependent on the panorama of its own time just as any other building art, and precluding a host of possibilities.

[*card 14*]
There is no reason to overestimate this form. But it is, like all other authentic forms, both deep and high. Called to the one, attempting the other. A real world.— If that is true, then technology, too, must change into building art to complete itself. It would be a building art that inherits the Gothic legacy. It is our greatest hope.

[*card 15*]
But none of this comes about by itself. History does not come about by itself. [*addition in the original manuscript:* History must be done.] And historical measurements are

shorter than many realize. Only thirty life spans separate us from the Acropolis. And the breathing span of the Middle Ages was too short for it to complete its cathedrals. [*addition to the original manuscript:* We have all reason to be wide awake and not sleep away our time.]

[*card 16*]
Furthermore, the technological age is not as young as it may appear. Whitehead transferred the hour of its birth into the seventeenth century. That may be. The ultimate reasons for what occurs today may be found in the discussion of lonely monks behind quiet Romanesque monastery walls.

[*card 17*]
With infinite slowness arises the great form the birth of which is the meaning of the epoch. [*crossed out:* But a reconciliatory forgiving kindness of history permits great things to die in their greatness and spares them from old age.] Not everything that happens takes place in full view. The decisive battles of the spirit are waged on invisible battlefields.

[*card 18*]
The visible is only the final step of a historical form. Its fulfillment. Its true fulfillment. Then it breaks off. And a new world arises.

[*card 19*]
What I have said is the ground on which I stand; that which I believe and the justification of my deeds. Convictions are necessary, but in the realm of one's work they have only limited significance. In the final analysis it is the performance that matters [*crossed-out addition in original manuscript:* That is what Goethe meant when he said: Create, artist, do not talk.]

1953

By the late 1920s the "heroic" period of the avant-garde had ended with a return to order in most countries. The war and its aftermath had had a further chilling effect on radical aesthetics. In this climate the International Situationist movement was something of an exception. Founded in Italy in 1957 by Guy Debord, Asger Jorn, Giuseppe Pinot-Gallizio, and five others, it was collaged out of a handful of experimental groups alive in the late 1940s and 1950s, notably the Lettrist
172–75 International and the International Movement for an Imaginist Bauhaus. For a little more than a decade, in the course of internal transformations, the small cadre of artists and intellectuals who made up the group succeeded in producing a prophetic critique of art and society couched in terms of the city, the mass
314–18 media, and the relations of everyday life. They augured the resurgence of an oppositional culture that would come to fruition in the student strikes of 1968.

The following writing by **Ivan Chtcheglov** represents the original expression of the idea of unitary urbanism, a concept central to the Situationist movement in the late 1950s. It was published in the first issue of the *International situationniste* bulletin in June 1958 under Chtcheglov's pseudonym, Gilles Ivain, with the following note: "The International Lettrist had adopted this report on urbanism by Gilles Ivain in October 1953; it constitutes a decisive element of the new orientation then taken by the experimental avant-garde." A fantasy evoking the oneiric flâneurism of Louis Aragon's *Paysan de Paris* and reminiscent of the "transrational" architectural poetics of Velimir Khlebnikov, Chtcheglov-Ivain's text focuses programmatically on the city as a field of social and artistic action. He envisions the urban milieu as a site for the construction of ludic and performative situation-spaces or events. The "first experimental city" would contain rooms "more conducive to dreams than any drug" and a Disneyland of districts where every fantasy could be enacted through "controlled tourism." Through play "the baroque stage of urbanism" could become "a means of knowledge."

The inaugural issue of the *Internationale situationniste* also included the following definitions of concepts central to the Situationist program:

Constructed situation: a moment of life concretely and deliberately constructed by the collective organization of a unitary ambiance and a game of events;

Psychogeography: the study of specific effects of the geographical environment, consciously organized or not, on individuals' emotions and behavior;

Dérive: a mode of experimental behavior linked to the conditions of urban society: a technique of transient passage through varied ambiances. Also used to designate a specific period of continuous deriving;

Unitary urbanism: the theory of the combined use of arts and techniques for the integral construction of a milieu in dynamic relation with experiments in behavior.

Chtcheglov himself remains an obscure figure. A nineteen-year-old Czech emigré at the time of this writing, he was destined to become a Situationist "from afar," having in 1954 been "demitted" from the Lettrist movement for "mythomania, delirium of interpretation, and lack of revolutionary consciousness." Plans conceived with a roommate that year to blow up the Eiffel Tower landed him first in jail, and then, after subsequent bad behavior, in a mental institution, where he remained in Situationist martyrdom.

Published as "Formulaire pour un urbanisme nouveau" in Internationale situationniste *1 (June 1958), p. 15. In English in Ken Knabb, ed. and trans.,* Situationist International Anthology *(Berkeley: Bureau of Public Secrets, 1981), p. 19. The* International situationniste *bears this notice: "All the texts published in the* Internationale situationniste *may be freely reproduced, translated, or adapted, even without indication of source." Translation courtesy of Ken Knabb.*

Formulary for a New Urbanism

Gilles Ivain [Ivan Chtcheglov]

Sire, I am from another country.

We are bored in the city, there is no longer any temple of the sun. Between the legs of the women walking by, the dadaists imagined a monkey wrench and the surrealists a crystal cup. That's lost. We know how to read every promise in faces—the latest stage of morphology. The poetry of the billboards lasted twenty years. We are bored in the city, we really have to strain still to discover mysteries on the sidewalk billboards, the latest state of humor and poetry:

Shower-Bath of the Patriarchs
Meat Cutting Machines
Notre-Dame Zoo
Sports Pharmacy
Martyrs Provisions
Translucent Concrete
Golden Touch Sawmill
Center for Functional Recuperation
Saint Anne Ambulance
Cafe Fifth Avenue
Prolonged Volunteers Street
Family Boarding House in the Garden
Hotel of Strangers
Wild Street

And the swimming pool on the Street of Little Girls. And the police station on Rendezvous Street. The medical-surgical clinic and the free placement center on the Quai des Orfévres. The artificial flowers on Sun Street. The Castle Cellars Hotel, the Ocean Bar, and the Coming and Going Cafe. The Hotel of the Epoch.

And the strange statue of Dr. Philippe Pinel, benefactor of the insane, in the last evenings of summer. To explore Paris.

And you, forgotten, your memories ravaged by the consternations of two hemispheres, stranded in the Red Cellars of Pali-Kao, without music and without geography, no longer setting out for the hacienda *where the roots think of the child and where the wine is finished off with fables from an old almanac.* Now that's finished. You'll never see the hacienda. It doesn't exist.

The hacienda must be built.

All cities are geological; you cannot take three steps without encountering ghosts bearing all the prestige of their legends. We move within a *closed* landscape whose landmarks constantly draw us toward the past. Certain *shifting angles,* certain *receding* perspectives, allow us to glimpse original conceptions of space, but this vision remains fragmentary. It must be sought in the magical locales of fairy tales and surrealist writings: castles, endless walls, little forgotten bars, mammoth caverns, casino mirrors.

These dated images retain a small catalyzing power, but it is almost impossible to use them in a *symbolic urbanism* without rejuvenating them by giving them a new

meaning. Our imaginations, haunted by old archetypes, have remained far behind the sophistication of the machines. The various attempts to integrate modern science into new myths remain inadequate. Meanwhile abstraction has invaded all the arts, contemporary architecture in particular. Pure plasticity, inanimate, storyless, soothes the eye. Elsewhere other fragmentary beauties can be found—while the promised land of syntheses continually recedes into the distance. Everyone wavers between the emotionally still-alive past and the already dead future.

We will not work to prolong the mechanical civilizations and frigid architecture that ultimately lead to boring leisure.

We propose to invent new, changeable decors.(. . .)

Darkness and obscurity are banished by artificial lighting, and the seasons by air conditioning; night and summer are losing their charm and dawn is disappearing. The man of the cities thinks he has escaped from cosmic reality, but there is no corresponding expansion of his dream life. The reason is clear: dreams spring from reality and are realized in it.

The latest technological developments would make possible the individual's unbroken contact with cosmic reality while eliminating its disagreeable aspects. Stars and rain can be seen through glass ceilings. The mobile house turns with the sun. Its sliding walls enable vegetation to invade life. Mounted on tracks, it can go down to the sea in the morning and return to the forest in the evening.

Architecture is the simplest means of *articulating* time and space, of *modulating* reality, of engendering dreams. It is a matter not only of plastic articulation and modulation expressing an ephemeral beauty, but of a modulation producing influences in accordance with the eternal spectrum of human desires and the progress in realizing them.

The architecture of tomorrow will be a means of modifying present conceptions of time and space. It will be a means of *knowledge* and a *means of action.*

The architectural complex will be modifiable. Its aspect will change totally or partially in accordance with the will of its inhabitants.(. . .)

Past collectives offered the masses an absolute truth and incontrovertible mythical exemplars. The appearance of the notion of *relativity* in the modern mind allows one to surmise the *experimental* aspect of the next civilization (although I'm not satisfied with that word; say, more supple, more "fun"). On the bases of this mobile civilization, architecture will, at least initially, be a means of experimenting with a thousand ways of modifying life, with a view to a mythic synthesis.

A mental disease has swept the planet: banalization. Everyone is hypnotized by production and conveniences—sewage system, elevator, bathroom, washing machine.

This state of affairs, arising out of a struggle against poverty, has overshot its ultimate goal—the liberation of man from material cares—and become an obsessive image hanging over the present. Presented with the alternative of love or a garbage disposal unit, young people of all countries have chosen the garbage disposal unit. It has become essential to bring about a complete spiritual transformation by bringing to light forgotten desires and by creating entirely new ones. And by carrying out an *intensive propaganda* in favor of these desires.

We have already pointed out the need of constructing situations as being one of the fundamental desires on which the next civilization will be founded. This need for absolute creation has always been intimately associated with the need to play with architecture, time, and space. (. . .)

Chirico remains one of the most remarkable architectural precursors. He was grappling with the problems of absences and presences in time and space.

We know that an object that is not consciously noticed at the time of a first visit can, by its absence during subsequent visits, provoke an indefinable impression: as a result of this sighting backward in time, *the absence of the object becomes a presence one can feel.* More precisely: although the quality of the impression generally remains indefinite, it nevertheless varies with the nature of the removed object and importance accorded it by the visitor, ranging from serene joy to terror. (It is of no particular significance that in this specific case memory is the vehicle of these feelings. I only selected this example for its convenience.)

In Chirico's paintings (during his Arcade period) an *empty space* creates a *full-filled time.* It is easy to imagine the fantastic future possibilities of such architecture and its influence on the masses. Today we can have nothing but contempt for a century that relegates such *blueprints* to its so-called museums.

This new vision of time and space, which will be the theoretical basis of future constructions, is still imprecise and will remain so until experimentation with patterns of behavior has taken place in cities specifically established for this purpose, cities assembling—in addition to the facilities necessary for a minimum of comfort and security—buildings charged with evocative power, symbolic edifices representing desires, forces, events past, present, and to come. A rational extension of the old religious systems, of old tales, and above all of psychoanalysis, into architectural expression becomes more and more urgent as all the reasons for becoming impassioned disappear.

Everyone will live in his own personal "cathedral," so to speak. There will be rooms more conducive to dreams than any drug, and houses where one cannot help but love. Others will be irresistibly alluring to travelers . . .

This project could be compared with the Chinese and Japanese gardens in *trompe l'oeil*—with the difference that those gardens are not designed to be lived in at all times—or with the ridiculous labyrinth in the Jardin des Plantes, at the entry to which is written (height of absurdity, Ariadne unemployed): *Games are forbidden in the labyrinth.*

This city could be envisaged in the form of an arbitrary assemblage of castles, grottos, lakes, etc. It would be the baroque stage of urbanism considered as a means of knowledge. But this theoretical phase is already outdated. We know that a modern building could be constructed which would have no resemblance to a medieval castle but which would preserve and enhance the *Castle* poetic power (by the conservation of a strict minimum of lines, the transposition of certain others, the positioning of openings, the topographical location, etc.).

The districts of this city could correspond to the whole spectrum of diverse feelings that one encounters *by chance* in everyday life.

Bizarre Quarter—Happy Quarter (specially reserved for habitation)—Noble and Tragic Quarter (for good children)—Historical Quarter (museums, schools)—Useful Quarter (hospital, tool shops)—Sinister Quarter, etc. And an *Astrolaire* which would group plant species in accordance with the relations they manifest with the stellar rhythm, a planetary garden comparable to that which the astronomer Thomas wants to establish at Laaer Berg in Vienna. Indispensable for giving the inhabitants a consciousness of the cosmic. Perhaps also a Death Quarter, not for dying in but so as to have somewhere to live in peace, and I think here of Mexico and of a principle of

cruelty in innocence that appeals more to me every day.

The Sinister Quarter, for example, would be a good replacement for those hell holes that many people once possessed in their capitals: they symbolized all the evil forces of life. The Sinister Quarter would have no need to harbor real dangers, such as traps, dungeons, or mines. It would be difficult to get into, with a hideous decor (piercing whistles, alarm bells, sirens wailing intermittently, grotesque sculptures, power-driven mobiles, called *Auto-Mobiles*), and as poorly lit at night as it is blindingly lit during the day by an intensive use of reflection. At the center, the "Square of the Appalling Mobile." Saturation of the market with a product causes the product's market value to fall: thus, as they explored the Sinister Quarter, the child and the adult would learn not to fear the anguishing occasions of life, but to be amused by them.

The principal activity of the inhabitants will be the *Continuous Dérive*. The changing of landscapes from one hour to the next will result in complete disorientation. (. . .)

Later, as the gestures inevitably grow stale, this dérive will partially leave the realm of direct experience for that of representation. (. . .)

The economic obstacles are only apparent. We know that the more a place is *set apart for free play*, the more it influences people's behavior and the greater is its force of attraction. This is demonstrated by the immense prestige of Monaco and Las Vegas—and Reno, that caricature of free love—although they are mere gambling places. Our first experimental city would live largely off tolerated and controlled tourism. Future avant-garde activities and productions would naturally tend to gravitate there. In a few years it would become the intellectual capital of the world and would be universally recognized as such.

1954

CIAM's ninth congress was held in Aix-en-Provence in the summer of 1953. Organized by the French group ASCORAL, it was the largest congress to date, with 500 members making the trip to the south of France from all over the world. It culminated in a nocturnal fête on the rooftop of Le Corbusier's recently completed Unité d'Habitation in Marseilles, "lit up like a beacon," as *L'Architecture d'Aujourd'hui* put it, "to show to the young of CIAM the way to a true modern architecture."

The task of the congress was the preparation of a charter of habitation, envisaged as a sequel to the charter of urbanism written in Athens in 1933. Participating as members of the MARS Group in their first CIAM congress, the young English architects Alison and Peter Smithson contributed a "study grille"—the form of standardized presentation required by CIAM following its seventh meeting in Bergamo—entitled "Urban Reidentification," prepared in conjunction with William and Gillian Howell and John Voelker. It was intended "in direct opposition to the arbitrary isolation of the so-called communities of the Unité." Organizing their scheme according to a "hierarchy of human association" instead of the four-function hierarchy promulgated at Athens—dwelling, work, recreation, circulation—and proposing a reciprocal relationship between height and population density, the Smithsons put forward four new categories: house, street, district, and city. At the scale of the large city, they offered a scheme for a multilevel residential complex, Golden Lane, which they had recently designed as a competition project for a bombed site in London. It featured above-grade pedestrian "street decks" and flexible connections to the ground and to places of work. The motivating idea was the creation of a vital sense of communal life. Especially effective in the Smithsons' grille was the use of Nigel Henderson's photographs of children playing happily in the streets of London's East End slums. The nitty-gritty of "reality" was meant to counteract the diagrammatic and static purism of *Athens Charter* urbanism: "hygienic, correctly spaced, with excellent wide roads. What was missing was man," as Peter Smithson later said.

At the congress the Smithsons formed alliances with a number of like-minded colleagues among the younger members of CIAM. These included Aldo van Eyck and Jacob Bakema from Holland, whose concerns were closely akin to their own. All were strongly impressed by the work of the Moroccan group ATBAT—a team composed of Vladimir Bodiansky, Georges Candilis, and Shadrach Woods—which had been designing Muslim housing in Casablanca. With its "golden suns on wands," their grille conveyed a "new language of architecture generated by patterns of inhabitation." Jointly concluding that "life falls through the net of the four functions," the younger generation of architects meeting in the coffee klatches at Aix agreed that the "primary contact" occurs "at the doorstep between man and men."

100–2

This shared philosophy led to a meeting in late January of the following year in Doorn, Holland, attended by Peter **Smithson** and John **Voelker** from England, Jacob **Bakema**, Aldo **van Eyck**, and H. P. Daniel **van Ginkel** from Holland, and—reflecting the current interest in sociology and ecology—Hans **Hovens-Greve**, a social economist working in the municipal planning office in Rotterdam (who ceased to be involved with the group after this date). Bakema showed his recently completed Lijnbaan shopping center for Rotterdam. Out of the discussions came the "Doorn Manifesto," calling once again for a subordination of the four functions to what the participants considered more fundamental questions relating to the specific scale and type of human collectivity. Peter Smithson inserted a simplified diagram showing the "valley plan of civilization" into the manifesto; it was taken from an article of 1925 by Sir Patrick Geddes, a figure who had recently aroused interest in CIAM circles.

The meeting at Doorn initiated a more lasting association among the members of the CIAM "phoenix group," self-consciously constituted along generational lines and shortly to be joined by Candilis and Woods as well as Rolf Gutmann of Switzerland. Their aggressive challenge to the older organization was directed at an establishment not only clinging nostalgically to the program of La Sarraz and Athens even as it strove to make it more humanistic, but by now more or less enervated from earlier battles. To the "youngers" thus fell the charge to prepare the brief for the congress's tenth meeting. With this task in view they designated themselves "Team 10."

CIAM 10 was ultimately held in Dubrovnik, and the theme, as prepared by Team 10, was "problems of the human habitat." At the congress an exacerbation
17 of the generational schism (which Le Corbusier anticipated in choosing not to attend) together with a series of arguments over administrative issues (the congress's unwieldy size, for one) brought to a head the crisis of confidence in CIAM's viability. Largely through the Smithsons' uncompromising stance, the outcome was the organization's dissolution. The actual disbanding dragged out over the next couple years. A "reunion" meeting in 1959, held in Henry van de Velde's Kröller-Müller Museum in Otterlo, Holland, was sponsored by Team 10. Forty invited participants whose average age was "about forty" attended,
270–72 including special guest Louis Kahn, an *eminence grise* at fifty-eight. At the end of the sessions a resolution was passed in which the participants agreed to drop the name CIAM from their activities. This was the congress's final gathering.

The members of Team 10 continued to collaborate as a self-styled "family," publishing a couple versions of the *Team 10 Primer* in the 1960s—a compilation of their individual and joint writings and projects—and meeting periodically. Their extended ranks included Polish emigré Jerzy Soltan, José Coderch de
335–37 Sentmenat of Spain, Giancarlo de Carlo of Italy, and Ralph Erskine of Sweden. For documentation and some subjective commentary on the history of Team 10 by one of its protagonists, see, besides the *Primer*, two other books edited by Alison Smithson: *The Emergence of Team 10 out of C.I.A.M.* (1982) and *Team 10 Meetings: 1953–1984* (1991). See also Aldo van Eyck's summary of CIAM's
347–60 history and ideas in a special issue of the Dutch journal *Forum* (1959), entitled "The Story of an *Other* Idea," prepared for the Otterlo meeting.

Facsimile of manuscript published in Alison Smithson, ed., The Emergence of Team 10 out of C.I.A.M. *(London: Architectural Association, 1982), pp. 33–34. Also published in "The Story of an* Other *Idea,"* Forum *7 (1959), p. 231. Courtesy of Alison and Peter Smithson.*

Doorn Manifesto—CIAM Meeting 29-30-31 January 1954, Doorn

Bakema, van Eyck, van Ginkel, Hovens-Greve, Smithson, Voelker

Statement on Habitat

1. La Charte d'Athènes proposed a technique which would counteract the chaos of the 19th century and restore principles of order within our cities.

2. Through this technique the overwhelming variety of city activities was classified into four distinct functions which were believed to be fundamental.

3. Each function was realized as a totality within itself. Urbanists could comprehend more clearly the potential of the 20th century.

4. Our statement tries to provide a method which will liberate still further this potential.

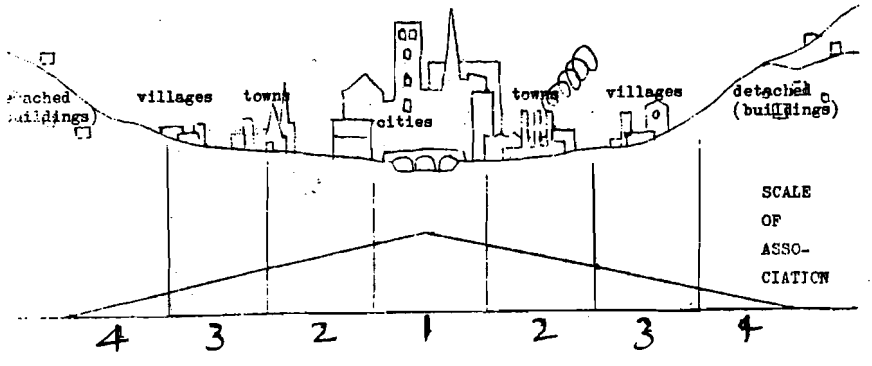
As a direct result of the 9th Congress at Aix, we have come to the conclusion that if we are to create a Charte de l'Habitat, we must redefine the aims of urbanism, and at the same time create a new tool to make this aim possible.

Urbanism considered and developed in the terms of the Charte d'Athènes tends to produce "towns" in which vital human associations are inadequately expressed.

To comprehend these human associations we must consider every community as a particular *total* complex.

In order to make this *comprehension* possible, we propose to study urbanism as communities of varying degrees of complexity.

These can be shown on a Scale of Association as shown below:



We suggest that the working parties [crossed out: "commissions"] operate each in a *field* (not a point) on the Scale of Association, for example: isolated buildings, villages, towns, cities. This will enable us to study particular functions in their appropriate ecological field.

Thus a housing sector or satellite of a city will be considered at the top of the scale (under City, 1), and can in this way be compared with development in other cities, or contrasted with numerically similar developments in different fields of the Scale of Association.

This method of work will induce a study of human association *as a first principle,* and of the four functions as *aspects* of each total problem.

Architecture Is the Thoughtful Making of Spaces
Louis Kahn

Reflect on the great event in architecture when the walls parted and columns became.

It was an event so delightful and so thought wonderful that from it almost all our life in architecture stems.

The arch, the vault and the dome mark equally evocative times when they knew what to do from how to do it and how to do it from what to do.

Today these form and space phenomena are as good as they were yesterday and will always be good because they proved to be true to order and in time revealed their inherent beauty.

In the architecture of stone the single stone became greater than the quarry. Stone and architectural order were one.

A column when it is used should be still regarded as a great event in the making of space. Too often it appears as but a post or prop.

What a column is in steel or concrete is not yet felt as a part of us.

It must be different from stone.

Stone we know and feel its beauty.

Material we now use in architecture we know only for its superior strength but not for its meaningful form. Concrete and steel must become greater than the engineer.

The expected wonders in concrete and steel confront us. We know from the spirit of architecture that their characteristics must be in harmony with the spaces that want to be and evoke what spaces can be.

Forms and spaces today have not found their position in order though the ways of making things are new and resourceful.

A space in architecture shows how it is made.

The column or wall defines its length and breadth; the beam or vault its height.

Nothing must intrude to blur the statement of how a space is made.

The forms characterizing the great eras of architecture present themselves and tempt us to adapt them to concrete and steel. The solid stones become thinner and eye deceiving devices are found to hide the unwanted but inevitable services. Columns and beams homogenized with the partitions and ceiling tile concealing hangers, conduits, pipes and ducts deform the image of how space is made or served and

therefore presents no reflection of order and meaningful form.

We are still imitating the architecture of solid stones.

Building elements of solids and voids are inherent in steel and concrete. These voids are in time with the service needs of spaces. This characteristic combined with space needs suggest new forms.

One quality of a space is measured by its temperature by its light and by its ring.

The intrusion of mechanical space needs can push forward and obscure form in structure.

Integration is the way of nature. We can learn from nature.

How a space is served with light air and quiet must be embodied in the space order concept which provides for the harboring of these services.

The nature of spaces is further characterized by the minor spaces that serve it. Storage-rooms, service-rooms and cubicals must not be partitioned areas of a single space structure, they must be given their own structure.

The space order concept must extend beyond the harboring of the mechanical services and include the "servant spaces" adjoining the spaces served.

This will give meaningful form to the hierarchy of spaces.

Long ago they built with solid stones.

Today we must build with "hollow stones."

1958

Viennese emigré **Richard Neutra** was one of the chief early proselytizers of the European modern movement in America. From the refined athletic utopia of the Health House built for Philip Lovell in Los Angeles in1929 to the mature and tempered position reflected in his essay "Human Setting in an Industrial Civilization" written thirty years later, Neutra served as mirror and lamp for the ascendancy of the new aesthetic in his adopted land.

Neutra had sought out Louis Sullivan upon his arrival in America in 1923, and a year later, when Sullivan died, met Frank Lloyd Wright at his funeral. This encounter led to an apprenticeship at Taliesin, where Neutra was lastingly affected by Wright's attitude to site, though interpreting it in a less romantic, more scientific vein. In his early enthusiasm for everything American, embodied in his book *Wie baut Amerika?* (1927), he expressed only slightly skeptical optimism about the Fordist ethos, playfully celebrating it by embellishing the Lovell house with Model-T headlights. But by 1954, in his book *Survival through Design,* he warned that the "overadvertised industrial technology" that had become the instrument of advanced design was "flooding us off our physiological bearings." In his attempt to salvage the human and biological values threatened by mechanization, he emphasized that "man is always in the middle of this ineluctable presence called the environment."

31–41

While the prewar Lovell house was to remain his definitive work, Neutra strove in the postwar years to elaborate his psychophysiological philosophy. His practice extended over a large and diverse range of projects, including (in a not entirely unsuccessful partnership with Robert Alexander) communal centers, schools, offices, and government buildings, and (on his own) a suite of single-family houses for clients of moderate and more substantial income in which he was able to implement more fully, and on occasion with much sensitivity, a "clinical" approach to individual environmental needs. In an article that appeared in 1951 in the *AIA Journal,* the architect Ralph Walker had claimed that modernism and its emigré exponents were engaged in "stripping down culture to unattractive minima or in twisting neurosis into nihilism." This accusation, crudely aimed at Gropius along with Neutra, Mies van der Rohe, Serge Chermayeff, Marcel Breuer. and others, unwittingly evokes a book like Theodor Adorno's *Minima Moralia,* published the same year. Adorno, another Viennese expatriate who settled in Los Angeles during this period, had become so disillusioned with Western reason as to express doubts that the world was still habitable. Neutra's diagnosis of a technological civilization's insensitive depletion of nature was only slightly less sobering than the Frankfurt School philosopher's indictment of modern culture; nonetheless he posited a philosophy of "biorealism" aimed at "survival through design." Walker's comments evoke the McCarthyite climate of these years, responsible for the cancellation, in 1951, of Neutra's controversial contract for large-scale public housing on Elysian Park Heights, considered "creeping socialism" by the *Los Angeles Times* and others. Yet despite such disappointments and other crises of a personal nature that undermined Neutra's later career, the architect never deviated from his vivid crusade for a better future.

In the following essay Neutra elaborates his biorealistic creed. An opening image recalls the visionary traffic schema he had advanced in a project of 1926 called "Rush City Reformed," but now in an ironic vein. The architect's postwar critique of a society that has realized its appetite for progress in an avaricious consumer culture is summed up in the apocalypse of one man emerging from the commuting masses, accidentally empowered when his stalled car jams the approach to the Golden Gate Bridge.

From Zodiac *2 (1958), pp. 69–75. Courtesy of Dion Neutra.*

Human Setting in an Industrial Civilization

Richard J. Neutra

Social cohesion and technical spread

The species *humana* has long had a wide global range out of which it now begins to burst by rockets into outer space. Its physical setting, once easily tended by local habituation, has turned into a design problem of so formidable a complexity that my humbleness before it deepens, the longer I attempt a contribution.

The United States may well have overextended herself, on the order of a business concern, internally and externally over long distance. Not only its political missions, its embassies, but its cinema films depicting American life, and misunderstandings of it, our commercial manners, our automobiles, have diffused their contemporary flavor and at least on the surface proselytized the world somewhat like the Roman imperium in antiquity and the still farther flung Hispano-Hapsburg empire of the post-Renaissance. We have converted the Pakistanis, not to Christianity, but to the right-hand-drive, and to endless rows of army trucks imported annually as appropriated by Congress. Our Quonset huts dot the jungle clearings of the "Paradise of the Pacific" and the South Seas, way beyond our legitimate trust territory.

But now all this is no longer just "Americanism," whatever the initial stages of the fantastic industrialized civilization of superhuman scale may originally owe to one or the other national focus. The steel sections from which Japanese elevated railway structures are built to carry thundering electric trains, and to corrode over neatly preserved and tended rural rice paddies, or in the midst of the sprawl of a Tokyo of eight million population—are rolled in Kiushu, not in Pittsburgh. The swarms of double-deck buses piling up at the Kowloon Star Ferry are of Hong Kong assembly and fabrication, like the Coca Cola locally bottled; the twelve new, miraculously mechanized beet sugar factories in the fields of ancient Anatolia are imports of French manufacturing talent to Turkey, even if their ingenuity of agrarian economy may be supported by U.S. "Economic Cooperation" dollars. From Manila to Caracas the Douglas and Lockheed airliners, laden with commercial "agents provocateurs" and tourists, the upholstery of the big cars from Detroit and the Hilton International hotels have brightly colored the mental and the physical scene, both conditioning minds and producing antagonism. These contemporary inserts abroad often are erratic islands strangely and offensively elevated in the midst of a wide sea of soft currency and direly low purchasing power.

Power, mammoth magnitude, mass transaction in material, energy, and megalopolitan turmoil are our American pride as well as our patient suffering.

An episode again and again tends to come to my mind. One of my clients lives in Orinda, east of the beautiful San Francisco Bay and, like a quarter million others, drives every morning to town over the world's proudly longest bridge.

Recently, he told me, he had a wonderful inspiring experience—a revelation of power. On the bridge approach his car broke down. For twenty minutes he was holding up behind him thirty-five thousand two-tone cars in shiny Duco. It was a magnificent picture. He could see their chromium-plated bumpers glittering in the morning sun, sparkling like the lovely waters of the Golden Gate beneath, as he looked in the other back mirror of his windshield. He could hear from far and near harmoniously whooping horns, as every driver longed to reach his parking place and busy office desk over there in downtown San Francisco. He said it was a moment to feel one's power, the thrilling power of the unprecedented progress of our wondrous age.

Not every enthusiast of progress and power has so lyrical a view when looking backward, in our early morning that now perhaps begins to approach a hot noonday.

Love for the New World of "liberty or death" was instilled in me about 1910 by indeed unequal bards of America, Adolf Loos, Louis Sullivan, and Frank Lloyd Wright. Yet I found myself also pitifully lonesome under the spell of fanciful superscale statistics and giantism in a hemisphere more and more reverberating of it from Vancouver to Buenos Aires.

In English the word "figure" stands for both number and shape—what Plato would have called *eidos* or what perhaps a school of German psychology terms *Gestalt.* American Jamesian Pragmatism has in its popularization veered toward utilitarian numerology, a cult of big numbers and of winning statistics, no matter how splendid writers and thinkers since Henry David Thoreau have in this country tried to uphold the humanities. They have bravely postulated a culture of cities, and found its continuity through all the only supposedly unmitigated dark ages, even that of Victorianism.

When much later, about 1930, returning from Zen Buddhist Japan and lecturing before students and colleagues in Asia, I was given the privilege to address also many countrymen in the then brand new "School of Social Research," lower Manhattan, or the gilded Blackstone Hotel on the central waterfront of Chicago, where an institute of industrial arts was to be born, I spoke of the ritual of perfectionism, intimately bound to human nature, of the Bauhaus where I had just been invited as a guest, the International Congresses for Modern Architecture, of history as Giedion sees it, the problems of mathematical rationalism long intertwined with timeless abstract classicism—and of my own ideas to make architecture a warm-tempered, nonabstract, most intimately enveloping environmental art, intensely close to nature—human nature as well as nature outside our skin.

In those days I urged to follow an old American tradition and bring vital Europeans, Gropius and Mies to the New World, while the old seemed to crumble; and they came and taught, so that I felt less lonesome.

But first, and long after, I had no clients at all. In the early twenties my solitude remained arctic in the midst of this scene of humming wheels. Anyone can see why, who glances through the trade journals of that period. I made drawings of tall office buildings somewhat like Lever Brothers, but instead the Woolworth Building went up with a fanfare.

But the Woolworth had such a ridiculous position in the city plan, such a misrelation to New York City Hall, the adjacent traffic arteries and East River bridge, that in my mind and on patient paper I began to "Reform Rush City" in dozens of studies all related to each other, like Balzac's stories in the *Comédie Humaine.* An *urbs* of wholesomeness with healthy pedestrian neighborhoods in the orbit, with rail-and-air transfers at the ends of a precalculated ribbon city along a spine of central industries and distributing facilities of goods, was one of the more comprehensive schemes which I analyzed and described in all detail. I was indeed deeply happy when Lewis Mumford, decades later, saw something exemplary in these lonely forgotten studies, included entire school and recreation systems, gravity centers of community life, and kept on laboring hard against the sprawling blight that befouls and outdistances nature around our cities.

Physis and physics

Apart from any sentimental attachment, I saw nature phylogenetically and ontogenetically

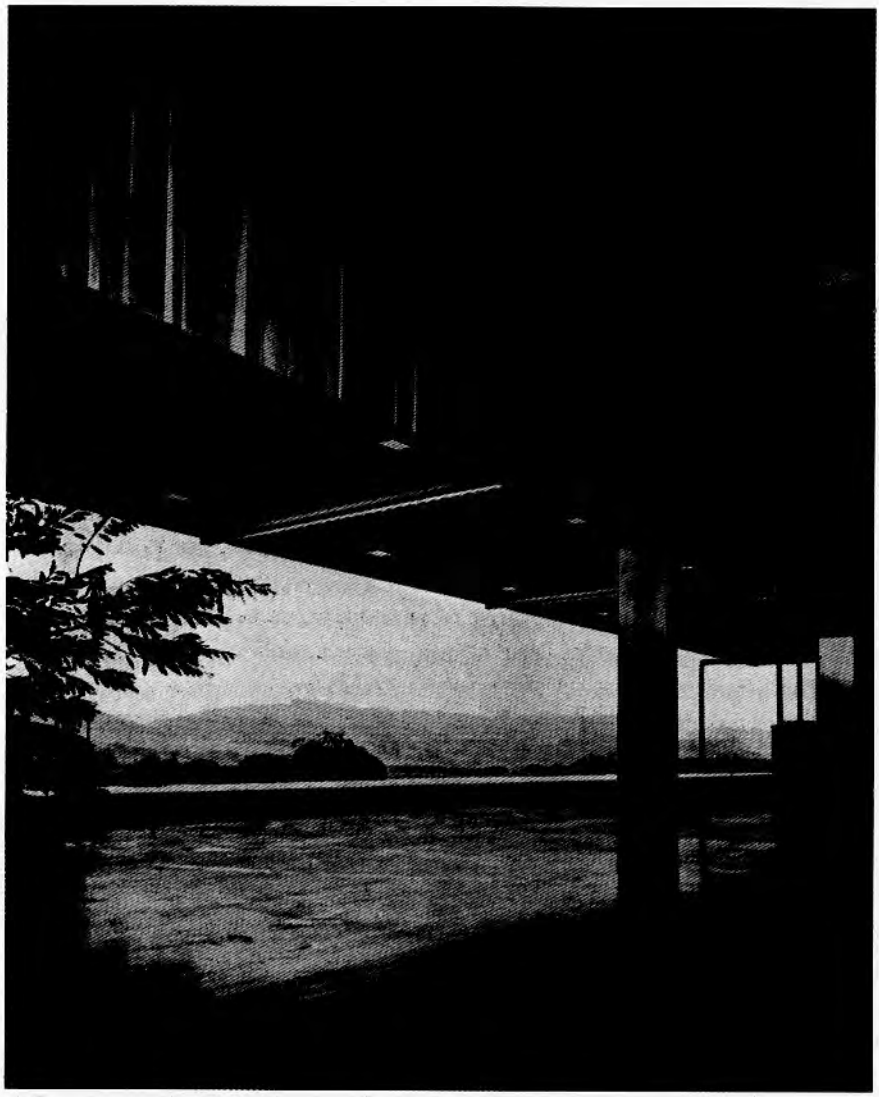
as our matrix, ever since I had as an adolescent boy started to study experimental physiological psychology in the ponderous tomes of the great Wilhelm Wundt. His observational curiosity readily fused with all that stirred in me as a future planner of communities and a designer of living spaces. Modern architecture, explained by the progress of engineering and technique, was the creed of us avant-gardists, and I passionately experimented with a wide array of constructional novelties, such as bolted and welded steel, sheet metal shaped and engineered into stress-taking stiffness, shot and vibrated concrete. Prefabrication and radiant heating I explored, and such efforts of mine were graciously reported as of interest and merit in scientific and trade journals, which in a technological civilization have a predominant readership. The romantic rhetoric of an age of glorious engineering possessed also me—so much so that all my Beaux-Arts colleagues of yesterday's vogue disparaged me as "just an engineer," a bad word, indeed intended as a mortifying insult at that time.

But this blame was not justly fixed on me, as in 1926 and 1927 I began the plans of the "Health House." It could have easily been called the first light residential steel structure—largely composed of most slender suspension members in tension, or it could well have been named the "glass" or the "gunite house." Although it was bristling with exciting technology from stem to stem and from frame to finish it was called Health House, and built it was with the patient, even passionate connivance of a physician preoccupied with the health-sustaining and therapeutic stimuli an architect has the chance to arrange for a lifetime around man, woman, and child—especially the child, in its so plastic and impressionable infancy.

When I used to my client the word "psychosomatic," it was then startlingly new, and I believe I never had heard it myself. But having had six years of Greek in school, it seemed to have a fused meaning most significant to me, most telling and serviceable.

Psychosomatically and in every other way an architect is not in the "quick turnover" but in the "long-range investment" business, if one can call his sacrificial profession any business at all. "Conservative," to use now a time-honored Latin word, meant to me preserving function and value, and I decided at this early age that frills and fashions were splendid for the ladies' apparel branch but bewildering to the person scraping together his savings, straining all his credit to build and to expose his life to a building for decades to come. An architect with fast-changing formal predilections, as a matter of course, scares him by equally fast obsolescence and decay of value. Entire neighborhoods get dated painfully and damagingly without a chance of improvement before physical depreciation and downright dilapidation relieves the surface of the earth of this dead weight, one time after another superseded by new stylishness. No cohesive community, placidly and slowly aging in unison and with a harmonious patina as of yore, is thinkable under such circumstances, and while architecture once used to be related to eternity, now it is subject to the latest copy of the fashion journal.

As Giulio Carlo Argan has expressed, it is an ominous step "from the sphere of the transcendent to that of the contingent" which architecture, the housing of man's activities, has taken. Some 40,000 architects and students of architecture around the globe can be a great help or harm to mankind. I was in recent years impressed to meet very many of them while on journeys of professional consultation, and found them with the same questions in mind and fairly uniformly bewildered because what they learn or have mastered today will, even in major aspects, not be good a few years hence. Yet man and his natural endowment is unchanged, and still poorly served.



Eagle Rock Park Playhouse, 1955. City recreation building opening wide into public hillside park. Suspension members of steel construction help omit obstructions of play area. Roll-up fronts on both sides permit expansion of interior play-space. [Photograph by Julius Shulman.]

It was not profound if modern architecture had been explained to the reluctant Philistine as timely "because this is a new day in engineering, in installations, in plate glass, plastics, and stainless steel . . ." A new day passes every twenty-four hours and the earth keeps spinning on to make us dizzy. Our gadgety property of yesterday becomes listlessly obsolete, overtaken by the Joneses who bought theirs this morning. We are restless, unsteady, impatient. The home is a place where one part of the family waits until the other brings back the car.

Yet mooring, anchorage, rooting are organic necessities, not even the freest bird can miss. He is even identified with the territory of his nesting and the "biochore," as zoologists call his specific habitat. I have on occasions thought of statistics from the mental health clinic of the Menninger Research group Topeka. Annually, somewhere between nine and twelve million know-how Americans cool their too hot heels in psychiatric waiting rooms, and one wonders where they could all park their cars.

Some seventy percent of the goods which reach the Brooklyn docks F.O.B. factory do so with only an eighteen miles speed per day. That this is what all our power and commotion have bought for us moderns makes one think of the sixteen miles a day mail coaches traveled over an almost roadless continent a hundred years ago. It is not merely a techno-economic disappointment. That eighty percent of overall costs of many goods, including manufacture, carrying charges, and plant overhead, go into the expense of distributing this merchandise over densely truck-clogged Manhattan, where thousands of taxis idle in a perpetual jam, brings to mind the biting of fingernails, the anxieties and neuroses which brain dynamicists have laboratory-produced by arrhythmic stop-go-stop innervations.

Modernity must not clash with the tradition of the so long fairly available calm nerves, natural protectors against stomach ulcers and hardened coronaries. True modernity will have to recognize readily the beneficial balance of cultural engrams and it will strive to "conserve" values and the steadiness derived from peaceful spatial-temporal integration. It will attentively salvage the most precious material that daily is under the urban designers' and the architects' hands: the human individual, although it is the one material least nationally advertised, and, in fact, not for sale.

Wear and tear on organic systems, physiological maintenance costs are overlooked by the "practical man." His supposedly pragmatic politics may have muddled through in ages of lesser velocities and mass transactions. I began to feel doubt that this experience of the past applies in our period of supercolossal stakes in the energy game. Our fireworks have become too bright, too noisy, and too rapid to adjust to. Automation may triumphantly turn ubiquitous, but it does not work at all for an automatic survival in the midst of wild artificialities, to which adaptation cannot be found even in eons while hourly progress goes on. No, not "progress"! We have—an awful plural of it—millions of progresses which take off each other's fenders, clash, crash into each other and never have been conceived in any sort of coordination. They have been conceived in terms of the technologically feasible and the commercially exploitable, hardly in terms of the biologically bearable.

I decided to look at architecture under the angle of Biological Realism, which if not *sub specie aeternitatis,* reckons at least with the long past of organic establishment that realistically deserves all respect from the designer of the human setting. The hardest facts, even economics, enter man's affairs via resilient neurocerebral tissue; no human fact is harder than that. The architect must keep it in mind and feel responsible for the subtle but vital preservation and satisfaction of human nerves and of life itself.

1958

In 1957 Max Bill resigned from the Hochschule für Gestaltung at Ulm over differences with the chairman of the school's new triumvirate board, **Tomás Maldonado**. Maldonado, an Argentine painter and editor of *Nueva Vision* (a journal of art, architecture, and design widely read in Latin America, and the first journal in that part of the world to give coverage to industrial design), joined the founding faculty of the Ulm school in 1954 on Bill's invitation and published a book on Bill in 1955. His educational ideas, however, turned out to diverge
157–62 substantially from Bill's. The latter's intention had been to continue the original Bauhaus "idea," updating the original curriculum for the needs of postwar society. Maldonado, on the other hand, believed the older school's philosophy of education through art to be obsolete and unable to respond to current conditions. In the following paper tracing the history of design education in relation to industrial development, Maldonado presented a radical manifesto for the Ulm school's new direction and his theory of "scientific operationalism"—a praxis based on "operational, manipulable, real knowledge."

Maldonado's argument was that aesthetic considerations, whether humanist (as in the Beaux-Arts tradition) or empiricist (as in the Bauhaus and other progressive schools), could no longer be paramount in a field determined by economics, technology, and social needs; on the contrary, the latter should determine design. As such, the designer's role was no longer to be an artist (serving Bill's elite of "good form" or catering to presumed popular taste through styling), nor was it even to be a constructor-inventor-planner on the Henry Ford model. Instead the designer should to be trained as a *coordinator* of all the diverse requirements of product fabrication and use. The coordinator was to operate "at the nerve centers of our industrial civilization, precisely where industry makes the most important decisions affecting our daily lives."

This argument encompassed architecture, henceforth understood at Ulm basically as industrialized building. Under Bill the program had been divided into five departments: product design, architecture, city planning, information, and visual communication. Maldonado reconstituted it in 1957 into two: industrial design (including product design and industrialized building) and visual and verbal communication. He also revamped the Bauhaus-derived introductory course, downplaying visual and manual training and stressing research methods and mathematics. In the 1960s, through internal debate as well as the influence of visiting faculty, the school's orientation underwent further revisions. The stress on methodology yielded to greater emphasis on praxis, and the technocratic approach to a critical theory of design, communication, and ergonomics.

In 1968 the school at Ulm suffered something of its predecessor's fate in being forced to close when funding was withdrawn by the conservative local government. More fatal to it in a large sense, though, was the paradox of being both ahead of and behind its time: ahead in that the profession of industrial design was still in its infancy during the 1950s; behind in its pursuit of an austere functionalism at a time when Germany had its sights set on new prosperity. For a history of the school's internal developments, see Kenneth Frampton, "Apropos Ulm: Curriculum and Critical Theory," in *Oppositions* 3 (May 1974). For the reception of the following document, see the discussion that followed its republication in *Stile Industria* (no. 21, 1959), including contributions by Reyner Banham, Gillo Dorfles, Ettore Sottsass, Jr., and others. A response by Max Bill to the changes implemented by Maldonado is "Der Modelfall Ulm: Zur Problematik einer Hochschule für Gestaltung," *form* 6 (Cologne, 1959).

Speech delivered at the International Exhibition in Brussels, 18 September 1958. Published in Ulm *2 (October 1958), pp. 25–40. Courtesy of the author.*

New Developments in Industry and the Training of the Designer

Tomás Maldonado

The ideas which supply the basis for what might be called the Bauhaus ideology are today, a quarter of a century after that institution closed, difficult to translate into the language of our present-day preoccupations. Furthermore, as we shall see, some of these ideas must now be refuted with the greatest vehemence as well as with the greatest objectivity.

It is, however, an undeniable historical fact that the closing of the Bauhaus ended a particularly fertile period in the history of the training of the designer, perhaps even its most brilliant period to date. From then until recently, design training, cut off from its original context, has passed into that category of subjects whose importance is always recognized but which are rarely favored with discussion and dissemination. This last period has undoubtedly been its least productive.

Nevertheless, during this same period there were a few isolated attempts to modify this state of affairs. It would be more than unjust not to remember them. Above all, I think of the efforts made by Walter Gropius, Josef Albers, and Laszlo Moholy-Nagy: efforts to introduce into America, under the most adverse historical circumstances, the theme of the training of the designer. It is clear that the goal which they set themselves was, at that time, not easy to reach. During those years, powerful external causes—directly or indirectly associated with Nazism or the war—hindered the free international exchange of ideas and experiences. Under such conditions the theme could not prosper; and in fact it did not.

The situation now may be said to have changed considerably. Today, not only has the true importance of design training been recognized, but the dissemination as well as the discussion of the theme has been fully fostered. The specialized magazines are full of articles in which the training of the designer is treated in the most minute detail and in its most subtle implications. The theme is publicly discussed. It is analyzed. One is asked to consider its importance to our technical civilization. Apart from this, there is no lack of purely informative contributions. Thus, these same magazines often publish complete issues documenting the institutions which today, in almost all industrially developed countries, are partially or wholly dedicated to the training of the designer. Each curriculum is minutely described, from the subjects taught up to the number of hours of attendance necessary; notes on the composition of the faculty are also given. This profusion of copious and carefully presented information would lead one to imagine that the schools of industrial design have already reached their maturity in every country, and all in the same way; in other words, that the question is one of institutions whose goals and methods are finally established. On the other hand, the pedagogic question has taken a leading role at the international congresses on industrial design, in the United States just as much as lately in Germany. The debate has sometimes been lively, but basically the differences have always been those of form rather than of content. In general, apart from a few fine shades of meaning, everyone has agreed on the correctness of the educational philosophy which flourishes today.

However, if the above-mentioned publications and international congresses present a very optimistic panorama of the present state of design training—a panorama which displays very few problems and many solutions—then these very same publications and congresses, as well as the best qualified theorists and

specialists, show on the other hand a symptomatic state of disorientation regarding what industrial design is and ought to be.

In other words, while the training of the designer continues to vegetate in the shadow of an already legendary Bauhaus, industrial design itself seems to be in a particularly critical situation.

In the process of cultural assimilation of the most recent conquests of science and technics—a process which to a certain extent depends upon the effectiveness of the designer—it is clear that this contradiction could play a delaying role of prime importance. It will in fact play such a role, if we do not very quickly try to modify the status quo.

Let us now examine the possible ways of modifying it. In my view, this task should not start with general reflections on education, but with an extremely concrete analysis of the present situation of industrial design. Of course, such an analysis presents certain difficulties; above all because its limits must be restricted. However, without wishing to pretend to exhaust the subject, I should like to recount a few isolated aspects whose significance is particularly important in relation to the present situation of industrial design.

The first aspect on which I should like to touch is the so-called aesthetic factor in industrial design. The way in which this factor must be embodied in the product constitutes the preferred subject of all the industrial design theorists. This theme invariably seems tied up with the no less important one of industrial design as a form of art. In the field of industrial design, aesthetic-artistic speculations have particularly complex historical antecedents; their origin is not to be found in one given tendency and in one alone. That is to say that their origins are not unitary but complex. They are the result of a huge developmental process, to which diametrically opposed tendencies have contributed. The historical antecedents of aesthetic-artistic speculations in the field of industrial design are quite inseparable from the antecedents of industrial design itself. In this sense, it is interesting to note that one of the main components, the current of craft revival set in motion by John Ruskin and William Morris in the environment of the nineteenth century, is at the same time one of those which contributed most to the idea of industrial design as art. For Ruskin and Morris, art was the only possible way to restore dignity to man's everyday life. The artist, for his part, was the only one capable of deciding—incontrovertibly—where and where not beauty lay. The artist would recover his paradise lost, find once again his vocation of guide, of judge — above all of judge; the objects which constitute man's world—those which, from the noblest to the humblest, surround man and are at his service—all objects would be inspired by art and by the work of the artist.

But, if one could trace a path from the arts and crafts movement to industrial design, it would be no straight path. The relation between the two is indirect; it is often established through byways. There has been no lack of sharp diversions and crossroads; no less, indeed, than reconciliations of opposing tendencies. It is clear that the artistic romanticism of the arts and crafts movement had little future in its original form.

Its declarations against the machine, its decorative flamboyance made it unadaptable to the new requirements of the industrial world then in formation. Similar causes would later bring Art Nouveau to a dead end.

To understand how, in the course of its development, industrial design could overcome the influence of the arts and crafts ideology, it is necessary to take into

account its other precursors: the current of the great nineteenth century bridge-builders and constructors of utilitarian structures, the current termed—the description is open to discussion—rationalist. Indifferent, even hostile to the aesthetic factor, the representatives of this movement built up a new concept of design. For them, design was to be identified with ideas of productivity in fabrication and assembly, with economy in materials, and with utilitarian function.

At the end of the last century and at the beginning of ours, a few architects thought—still in a confused and vacillating way—of the need for a compromise between the arts and crafts movement and the rationalism of the constructors. In America, Frank Lloyd Wright; in Europe, Hendrik Berlage, Peter Behrens, Otto Wagner, and Hermann Muthesius. Only Adolf Loos took up a brave and argumentative attitude toward the danger of such a compromise. Remember, for instance, his critical and sarcastic attitude in regard to the foundation of the Werkbund. But his theoretical position contained one very grave deficiency: industry was foreign to him.

Van de Velde, originally an orthodox follower of Morris, developed during these years toward a standpoint very similar to that of those who defended compromise. The part played by van de Velde at that time is complex and contradictory.

The inaugural manifesto of the Bauhaus in 1919, at Weimar, announced—not without declamatory *élan*—the union of the arts and the crafts and their future integration in a higher entity: architecture. It is a typical "arts and crafts" manifesto, which Ruskin and Morris could have signed without contradicting themselves.

All the same, very few years later, the Bauhaus took up certain positions which were correct in regard to the rationalist current. To some extent, neoplasticism and Russian constructivism came to replace the arts and crafts and expressionist attitudes. The aesthetic factor became more adaptable to the new requirements; compromise was now possible. The Bauhaus performed the miracle: the rationalist aesthetic of industrial production was transformed into reality. The industrial product posed a problem of form, of creating form artistically. One artistic repertoire was supplanted, but its place was taken by another repertoire, equally artistic. Among new aesthetic values to be taken into account were the so-called "truth" of materials. At the same time, the idea of function, inherited from the great engineers of the nineteenth century, was considered an essential factor. But it now had lost some of its original clarity; it was not quite clear to what it related. In France, Le Corbusier advanced similar views.

In 1928, Hannes Meyer took over the direction of the Bauhaus. Although today his personality and his activities may be very debatable, let us remember that at that time he was the only one who saw the danger of the artistic formalism of the Bauhaus, the only one to denounce it publicly and courageously. "Today," wrote Hannes Meyer, "the inventive capacity loses its way in empty schemes; the Bauhaus style has turned the head of the formalists." He added: "How many mysterious things one tries to explain through art, when in fact they are things which have to do with science."

The American economic crisis of 1930 gave the day to styling—a new variation of industrial design whose influence has in fact extended up to the present day. The Bauhaus, its followers and its sympathizers, denounced from the start the commercial opportunism of styling, its indifference to artistic and cultural values. But the problem was no easy one: from time to time the stylists created products which could not but have been approved by the partisans of the Bauhaus. Stylists such as Henry Dreyfuss or Walter Dorwin Teague were sometimes damned, at other times deified. One verdict seems to have been irrecoverable: the condemnation of Raymond Loewy.

Lately, the problem of styling has been much debated. One of the most lucid critics of industrial design, the Englishman Reyner Banham, asked us a little while ago to consider styling as a form of popular art. Styling of cars would thus belong to the same category of expression as the cinema, illustrated magazines, science fiction, comic strips, radio, television, dance music, and sport. According to Banham, cars should be considered as something more than useful objects; they should be objects with symbolic content. In opposition to the neoacademic slogan of the partisans of "good design," "a few rare flowers," he proposes a new slogan, "many wild flowers." The four principal points of his theory are as follows:

1. employment of the neoacademic aesthetic is not justified in the evaluation of products of mass demand;

2. the aesthetic of a product should be transitory;

3. the aesthetic should not depend on an abstract and eternal idea of quality, but rather on an iconography of socially accepted symbols;

4. these symbols should be immediate, and tied to the use and nature of the product.

In the deserts of boredom of the theories about industrial design, where commonplaces rather than original ideas abound, Banham's thesis seems at first approach very seductive. However, a deeper analysis reveals the fragility of some of his formulations and, above all, underlines much contradiction and inconsequence.

For example, Banham agrees that it is madness to judge industrial design as an art, while proposing to consider it as a popular art. The thesis that the products of styling may be the expression of the folklore of our century certainly has some truth in it; I could perhaps eventually agree with Banham on this point—always on condition that the huge circulating dinosaurs of Detroit are an authentic popular art, the art of the people. I am sure it is a question of art for the people. I am not convinced that the aerodynamic fantasies of vice-president Virgil Exner, responsible for the design of Chrysler automobiles, coincide with the artistic needs of the man in the street.

Today, everyone is aware that, in order to survive, the economic system of free competition demands constant change in consumer goods, but it is not established that this change must always be made in the same way; for example, always through mutations in the aesthetic form of the product. The "transitory aesthetic" is not, as Banham assumes, the only thing capable of responding to the need for change. This aesthetic today favors facade modifications, but hinders fundamental ones. When Banham speaks of a transitory aesthetic, he thinks of the problem of annual change in car models; but in my opinion the criticism that we could make of the automobile industry does not touch on its excess of change, but much more on its lack of change. The stylist sees his task as one of renovation, always renovation; but, with Richard S. Latham, we can recognize that his palette is very limited. Multiple variations in the aggressiveness of bumpers, the ferocity of headlights, or the generosity of tailfins do not in fact constitute a basic change. The automobile industry is in stagnation, for it does not get to the point of passing from artificial changes to essential and revolutionary changes; changes such as those accomplished by Henry Ford in proceeding from Model T to Model A have not recurred in the history of his firm. Many people complain of the disheartening diversity of the products of our economics of free competition, when basically it is more a question of deploring its depressing uniformity.

Finally, this English critic has not seen that the responsibility for the present-day crisis in industrial design should not fall exclusively on those whom he calls "neoacademic formalists," but also on the stylists. He does not wish to admit that formalism and styling

are merely two sides of the same coin: the idea that the aesthetic factor is basic to the creation of the product, i.e. industrial design as art.

Neoacademicism is a right-wing aestheticism, an aesthetic for but few people, "rare flowers"; styling is a left-wing aestheticism, an aesthetic for many people, "wild flowers." The metaphor is doubtless pleasing, but I hold that the new tasks of the designer will have nothing to do with artistic horticulture, be it from the left or from the right.

The aesthetic factor merely constitutes one factor among others with which the designer can operate, but it is neither the principal nor the predominant one. The productive, constructive, economic factors—perhaps, too, the symbolic factors—also exist. Industrial design is not an art nor is the designer necessarily an artist. The majority of the objects exhibited in the museums, and in the exhibitions of "good design," are anonymous and often executed in technical offices by subordinate employees who never imagined that they were producing art. In return, the greatest horrors of contemporary industry have been executed in the name of beauty and of art. General Motors, which has distinguished itself in this direction, published three years ago a sort of catechism of styling for the automobile industry. This is an abundantly illustrated prospectus, in which the words "beauty" and "art" recur every two lines, until the definition is finally reached: "For the stylists, creation is the capacity of materializing beauty."

This example comes from the domain of styling, but the field which Banham calls neoacademic formalism is not poor in similar examples. Here too, in the name of beauty, of "good form," horrors were created which have no need to envy those of styling.

Of course, the question of determining what is a horror, and what is not, could be asked and debated forever. The point is that there is no longer any doubt that aesthetic considerations have ceased to be a solid conceptual basis for industrial design.

The second aspect of importance is the economic factor, i.e. the dependence of industrial design on the world of production and consumption. There are very great difficulties in throwing light on this subject, because up to the present time we lack a scientific study of the true economic role of industrial design. The reports of the market or motivation research organizations do not always deserve our confidence; it is clear that the interviewing methods (above all the style of the questionnaires, the particular sector of the population chosen for interview, and the desire to verify a preestablished thesis) very often efface the scientific rigor necessary to the observation and interpretation of the facts. The books, articles, and conferences on industrial design are generally sensationalistic, anecdotic, or ingenuous.

Let me quote one exception. In a paper read ten years ago at a meeting of the Swiss Werkbund, Gregor Paulsson touched on the subject in quite a different manner. As far as I know, this was the first attempt to analyze the economic implications of industrial design in the light of an economic theory of value. Paulsson tried to determine the place occupied by industrial design in the relations between producer and consumer. According to him, the producer is only interested in the exchange value of the product; the consumer, in the use value alone. For this reason, the "aesthetic void" is born of the indifference of the producer to the aesthetic factor. But very often the producer may see the sales value of the aesthetic factor. This is the moment of "aesthetic prostitution." Thus, styling would be a typical example of aesthetic prostitution, because the aesthetic factor merely serves the interests of the producer and his sales

policy. Paulsson suggests that in order to fight against this opportunism it would be necessary to try to incorporate the aesthetic factor in the use value—to place it at the service of the consumer.

Paulsson's thesis, in spite of its novelty and its possibilities of development, is open to objection on many counts. For example, it does not avoid the error of continuing to consider the aesthetic factor as the only *raison d'être* of industrial design. On another count, from the viewpoint of the economic theory of value, Paulsson exaggerates the simplicity of the problem, most of all when he ensures that use value and exchange value are not interrelated. David Ricardo, commenting on Adam Smith, states: "Utility is not the measure of exchange value, even though it is absolutely essential to it." On the same question, Karl Marx wrote: "I do not separate use value and exchange value as though they were opposites . . . use value materially carries exchange value." We find similar statements in John Maynard Keynes and many other modern economists. Paulsson's thesis, that industrial design should operate with use value and not with exchange value, that it should stimulate the consumer's market and not that of the producer, is indefensible. It is impossible to verify it amid the competitive economic structure in which we live. As we shall see below, the situation is not very different in a socialist economy, where competition either does not exist or adopts more subtle force. The passage from producer to consumer, from exchange value to use value, is very complex. It is a process in which the connections of cause and effect are not easy to establish. It is senseless to design in a process of this kind, for the simple reason that the producer and consumer are also not entities which one can place once and for all in a fixed scheme.

There was a time, for example, when the competitive capacity of a firm was measured by the degree of rationalization of its production and not by the seductive power of its products over the consumer. This was the industrial philosophy of Henry Ford. Around 1930 arose the industrial philosophy of styling; competitive capacity came to depend upon the form of the product. Today, that which we have come to call the "Detroit crisis" could put an end to this period. It is quite possible that automation (to which we shall return below) entails a return, naturally on a different basis, to the industrial philosophy of Henry Ford.

In each of these periods, the producer-consumer relationship differs, for in each one the product functions in a different way. As a result, the designer cannot always have the same function or the same significance. In the first of the periods I have just recalled, the designer was the constructor, the inventor, the planner: Henry Ford himself was the great designer of this period. In the second period, the designer was the artist; it matters little whether his aesthetic was popular or purist. In the third period, he will be the coordinator. His responsibility will be to coordinate, in close collaboration with a large number of specialists, the most varied requirements of product fabrication and usage; his will be the final responsibility for maximum productivity in fabrication, and for maximum material and cultural consumer-satisfaction.

In order to simplify the analysis of Banham's thesis on the aesthetic factor, and Paulsson's on the economic factor, I have been obliged to leave many questions to one side.

One of these questions, and not the least important, concerns the difficulty of knowing objectively what a consumer is, without making abstract generalizations. Although each one of us may be a consumer, or perhaps precisely because of this, the information at our disposal is insufficient. I repeat that today we have many reasons to

[Hochschule für Gestaltung, Ulm. View into studios.]

mistrust our market and motivation research organizations. But we would like to be able to hope that empiric sociology, cultural anthropology, descriptive semiotics, hereditary psychology, the psychology of individual and social behavior, perception theory, etc., could at some time join together in a systematic study of the most subtle aspects of consumption.

Doubtless we know a certain amount about consumption, but it is clear that our knowledge is not at the level of our needs. We know, for example, that the freedom of the consumer is an illusion; or better, we could say (using the distinction made by Anatole Rapoport) that the consumer has the possibility of consuming what he likes, but not the probability of so doing. Here, I am not thinking merely of the material probability, but mainly of the psychological probability of purchase. Our competitive society is constructed on precisely this misunderstanding. Our possibilities are ours and ours alone, but of our probabilities we are not masters. True, we are free to consume; but only to consume what someone or other in some invisible place has previously decided is in our interest—and sometimes against it.

Again, we know that we often consume for projective or compensatory reasons. Through a process of symbolic transference, certain objects bring us real or illusory prestige, reputation, or security; others help us for a moment to temper our feelings of hostility or isolation.

These are the things we know. But many other aspects of consumption are not so easily labeled. Neither the psychoanalysts nor the professional critics of our civilization can give us a comprehensive explanation of all the phenomena of the world of consumption. The Marxists themselves do not succeed. One of them, the French philosopher Henri Lefebvre, recently wrote: "By the side of the scientific study of the productive relations which affect political economy, there is . . . room for a concrete study of appropriation: for a theory of needs." According to Lefebvre, this theory should answer the following questions: "where and in what field do living men make contact with objects of consumption? and how do they find what they look for? do needs form a whole? is there a 'needs system' or a needs structure? what is this structure?"

In the period which is now beginning, a scientific reply to each of these questions will be required by the designer. It will be the only way for him to replace, in his work, abstract generalizations about the consumer with objectively usable material.

The third and last aspect with which I should like to deal is the relation between productivity and industrial design. Productivity displays three attributes:

1. increase in production;
2. decrease in the unit cost price of the product;
3. improvement in the quality of the product.

In present-day large-scale industry, productivity has two complementary methods of attaining its ends:

1. operational research;
2. automation.

("Operational research," according to G. Kimbal and P. M. Morse, "is a scientific method whose purpose is to give management a quantitative basis for decisions relating to operations placed under its control." "Automation," according to Frank G. Woollard, "is the system and method of making processes automatic by the use of self-controlling, self-acting means for performing necessary operations in industrial or commercial undertakings.")

We have already mentioned a possible return by present-day industry to the

productive philosophy of Henry Ford: the idea of productivity as the dominant factor. Little by little, vast sectors of industry realize that frenzied competition in ornamentation of products can seriously compromise their real interests. The first symptom and warning is the Detroit crisis: the surprising and unpleasant discovery of the slump in the sales of General Motors, Ford, and Chrysler cars. To replace a popular "look" with a purist "look" would be no solution to this problem. Large-scale industry seems to have already dimly seen that ornamentation, popular or purist, is an absurdity from the point of view of productivity.

Naturally, many people assert that the problem is incorrectly stated; that even an industry in full automation could produce the most absurd products. I do not doubt that the subtle stone lacework of the Hindu temple of Rajarani could be the subject of a fully automatic mass-production run, if a maharajah had a chance caprice. It is only in the light of productivity criteria that we could establish the justice or falsity of such an action. And I can assure you that the cost price would not be convincing.

There is also the argument that the designer is not faced with a new situation, since he has always been obliged to take into account materials, fabrication, and productivity, too. We agree. But the existence of a different level of acuteness is forgotten. Today, the requirements of productivity are much greater than before. Let me quote an example. At the Builders' Conference held in 1954 in Moscow, the popular ornamentation of Soviet architecture—the neoclassicism of the pastry cook—was condemned by Khrushchev, not because of revisions in the official Soviet aesthetic, but because of the productivity requirements of industrialized building, and because of the need to reduce the cost price per cubic meter.

We may be certain that, in the years to follow, productivity and industrial design go hand in hand; the demands of automation will to a great extent contribute to this. The new phase of industrial development is characterized by a new theory of the relationships between machine and product. The machine designed for the resultant product will be replaced by the machine designed to carry out fundamental operation. This is the thesis of Eric Laever and John J. Brown; its importance to industrial design is of the first order. If, in the past, the product to a certain extent determined the operative behavior of the machine, then in the future, it will be the operative behavior of the machine which will to a certain extent determine the product. This implies that the designer will, more than ever, have to obey factors foreign to his own individual field. One of the most typical activities of the new period will be what John Diebold terms redesign. "Fully automatic production," writes Diebold, "often begets the need to redesign the product as much as the process of production. . . . In the majority of cases, it will seem easier to renovate the consumer goods than the industrial equipment, which will have to carry out a predetermined function.'" The full automation of the English radio factory at Shepperton, for example, was only possible through redesign, according to the engineer John Sargrove.

Redesign can nevertheless have other reasons. A product may undergo essential modification in its shape and in its function because of the development of its various organs. In this direction it is most interesting to observe the phenomenon conventionally termed "miniaturization." The engineer J. W. Dalgleish gives the following definition: "The development of techniques that make possible electronic assemblies whose size is reduced to a limit primarily imposed by the smallest valves which are economically available." The radical reduction in the scale of tubes, and the introduction of transistors, has stimulated revolutionary modifications in huge areas of industrial

production. Such modifications will be of profound significance to industrial design. It is clear that the change in scale of the product—considering the scale of use, the human scale, as fixed—poses exceptionally interesting and difficult problems for the designer. On the other hand, the peaceful use of atomic energy will open an absolutely new field of activity to the designer, where tasks await him which are completely different from those it is his habit to imagine.

Having considered the present-day problems of industrial design, we may now draw some conclusions about the training of the designer.

For some time, it was thought that the theme of education for industrial design could be isolated from the general context of higher education. This false conviction was fostered by the habit, inherited from the time of the Bauhaus, of considering training for industrial design as a primarily artistic phenomenon, only marginally pedagogic. But education for industrial design is only a special case of higher education. Many—I do not say all—of its problems should be visualized and solved in relation to other greater problems of education.

In this direction, it is most important to examine the example of the relationship between education for industrial design and the present crisis in scientific and technical education. Every day, it is stated that more scientists, more engineers, more technicians must be trained. Certainly this is a most important question; but in fact it is entered upon with extreme frivolity. Statesmen, educational administrators, and journalists believe that the problem is purely quantitative, that it can be solved by increasing the number of teachers and the construction of new school buildings, and by an ever larger number of students. True, these are indispensable measures, for without them it would be impossible to put the matter on a real basis; but they are not enough. We educators want to know on what educational philosophy to base our teaching. The two fundamental currents of contemporary pedagogy, neohumanist and progressive, are no longer of any help to us today.

This insufficiency is not only a fact of scientific and technical education, but also of education in industrial design. The didactic philosophy, from which the industrial design schools are still nourished, is in fact completely out of date. It is identified today with a tradition which is principally artistic: the Bauhaus tradition. (Thus, although Marianne Brandt's geometric tea-set "Bauhaus 1924" is now considered a museum curiosity, it is asserted that we must regard "Bauhaus 1924" pedagogical ideas as important today.)

But what significance has the Bauhaus tradition, from the viewpoint of the history of educational ideas? How does it express itself? What are its characteristics? It would seem that in practice, as an educational reality, the Bauhaus tradition is almost entirely reduced to its preparatory course. For many, this course constitutes the principal component of the Bauhaus didactical tradition; more, it is considered the indisputable basis for the education of the designer. Thus, I think it important that we examine that which was and is the basis of the teaching of this preparatory course.

To begin with, it must be said that the best qualified historians of the Bauhaus doubt the existence of a unified didactic principle in the preparatory course—as much at Weimar as at Dessau. But let us suppose for a moment that such a principle did exist, and that it had a unified character. We could imagine it as the result of a synthesis of the contributions of Itten, Kandinsky, Klee, Albers, and Moholy-Nagy. For a moment, let us forget their profound differences and look for their common factors. We shall thus discover a didactic principle whose general line could be described as follows: the

student in the preparatory course should, through artistic and manual practice, free his expressive and creative powers and develop an active, spontaneous, and free personality; he should reeducate his senses, regain his lost psychobiological unity—that is to say, the idyllic state in which to see, to hear, and to touch are true adventures; finally, he should acquire knowledge not only intellectually but emotionally, not only through oral explanations but through action, not only through books but through work. Education through art. Education through doing. Such are the constants that we can separate out from the didactic thought of the master of the Bauhaus.

This characterization shows well enough that the Bauhaus was not a miracle. From a didactic viewpoint, it is easy to reveal its origins. For example, we can clearly distinguish the influence of the "movement for artistic education," founded at the end of the last century by Hans v. Marées and Adolf Hildebrandt; the influence of the "work schools" movement of Kerschensteiner; the influence of the "activism" of Maria Montessori; and the influence of the American "progressive education."

We cannot criticize the Bauhaus on this score. These movements were the most advanced manifestations of educational thought at the time. It was a matter of opposition to philological and verbalist "neohumanism," to philosophical idealism, to the academic crystallization of education. It was a question of argumentative exaltation of expression, intuition, and action, above all of "learning by doing." But this educational philosophy is in crisis. It is incapable of assimilating the new types of relations between theory and practice, engendered by the most recent scientific developments. We know now that theory must be impregnated with practice, practices with theory. It is impossible today to act without knowledge, or to know without doing. Operational scientific thought has bypassed the ingenuous dualisms, the pseudoproblems which so worried the first pragmatists.

Naturally, this crisis in "progressive" educational philosophy is interpreted by some as the great moment of revenge, as if the day of conservative education, of "neohumanism," had returned. "Learning by doing" is in crisis, they think; let us then go back to "learning by speaking." And let us speak only of Plato, of Aristotle, and of Thomas Aquinas. From existentialism to rigor. Such people make a great mistake. If today we must refute "progressive" education, we must also, even more energetically and decisively, refute "neohumanism."

A new educational philosophy is already in preparation; its foundation is scientific operationalism. It is no longer a question of the names of things, nor of things alone: it is a question of knowledge, but of operational, manipulable, real knowledge.

The designer is destined to integrate himself into that reality whose complexity and nuances I hope to have shown. He will have to operate at the nerve centers of our industrial civilization; precisely there, where the most important decisions for our daily life are made, and where, as a result, those interests meet which are most opposed and often most difficult to reconcile. Under these conditions, on what will the success of his task depend? On his inventive capacity, certainly, but also on the finesse and precision of his methods of thought and work, on the breadth of his scientific and technical knowledge, as well as on his capacity of interpreting the most secret and most subtle processes of our culture.

For the moment, one school alone is devoted to the formation of this new type of designer: the Hochschule für Gestaltung at Ulm. This school is the first example of the new philosophy of education. Sooner or later, I am sure, other schools will be able to profit from its experience and begin to follow the same path.

1959

In an article published in *Architectural Review* where he had recently become assistant editor, Reyner Banham launched an attack on the historicism that had come to the fore in Italy. Entitled "Neoliberty—the Italian Retreat from Modern Architecture," the article condemned the new tendency as a betrayal of modernism and an "infantile" regression. Significantly, the origins of Italian
370–78
modernism for Banham lay not in the rationalism of the 1930s but in futurism. Banham's widely publicized comments were directed in large part at **Ernesto Rogers**, who had played a major role in the new tendency's formation, both as editor of *Casabella-Continuità* and as a principal of the BBPR, which had recently completed the Torre Velasca in the historic center of Milan. Banham's article elicited a strongly worded response from the Italian architect-editor two months later. Although Rogers's position as expressed here differs little from that expounded in earlier articles, his tone captures a sense of the stakes involved and of the role of the journals in foddering an international debate.

The term "Neoliberty" had been coined the previous year by Paolo Portoghesi in an article entitled "Dal Neorealismo al Neoliberty" published in *Comunità* (December 1958). Portoghesi noted the pervasiveness of the new tendency, describing it as "that vast impulse to reevaluate the first period of the modern movement (beginning with the neomedieval revivals and ending with rationalism) which has exerted a direct influence on the most recent production of certain Italian architects of both the *younger* generation and that of the *masters*." In his view, the first phase of "postrationalist" architecture, which he labeled "neorealist" by analogy to films like Roberto Rossellini's *Rome, Open City* (1944), had been animated by an empathetic identification with the plight of an Italian populace left homeless and impoverished by the war. Epitomized in the epic populism of Mario Ridolfi's INA housing on Viale Etiopia in Rome (1950–54), it emulated the ambience of working-class life, romanticizing its spontaneity and naturalism, and opposing formalist preoccupations as academic. The successor Neoliberty, in contrast, coincided with the "economic miracles" appearing throughout Europe by the late 1950s. Looking back to turn-of-the-century bourgeois building tradition, it cultivated eclecticism and fantasy while at the same time acting as a critique of rationalism's lack of expressiveness and of material richness. Portoghesi reserved judgment on the new tendency (later to be a background for his own work), relating it to Italy's Art Nouveau style, the brick expressionist school of Amsterdam, and early Frank Lloyd Wright. Wright himself had recently revived the manner in his Morris store in San Francisco (1949) and Masieri Foundation project in Venice (1952). It thus also had links to
68–69
Bruno Zevi's organicism and to the work of Carlo Scarpa and Ignazio Gardella.

But the prime manifesto of Neoliberty was Roberto Gabetti and Aimaro Isola's Bottega d'Erasmo in Turin (1954), polemically published in 1957 in *Casabella*. It was followed (in notoriety) by the Velasca tower. The latter, which extended the stylistic connotations beyond the eponymous Liberty, evoked a medieval fortified tower at skyscraper scale. A few months after his argument with Banham, Rogers presented the building to his international colleagues at CIAM's meeting in Otterlo, justifying its silhouette as the product of functional and technical requirements as well as of a historical analysis of the preexisting
200–4
urban context. He was attacked again, this time by Team 10 members Peter
181–83
Smithson and Jacob Bakema. To Smithson's comments that the building was a formalistic exercise and dangerous model for imitation, Rogers replied, "There is one main difficulty that I see and that is that you think in English."

From Casabella-Continuità *228 (June 1959), pp. 2–4. Translated by Rebecca Williamson. Courtesy of Studio BBPR and Julia Banfi.*

The Evolution of Architecture: Reply to the Custodian of Frigidaires

Ernesto Nathan Rogers

There are sensations that one can never get rid of: as in Proust, where certain odors are connected with certain thoughts. Similarly, reading Mr. Banham's article in the *Architectural Review,* I cannot avoid remembering the amusing but decadent Victorian "pub" with its display cases of "stuffed fishes" and all the other customary trifles reconstructed in the cellar of the English review's offices. It is a way of recovering history through a particular society's representations, of painstakingly indulging in the most abstruse, dusty, and also most condemnable examples, to the point of absorbing that society's flavor.

It is probable that this "pub" shows only the negative pole of a cultural attitude to which the review has assumed a commitment with incomparable intelligence and seriousness. But it is clear that every battle conducted with such insistence ultimately has to involve some critical valuation before it may be entirely clarified.

It would be ungenerous to believe, because of possible errors or those that have already been noted, that the whole business ought to be condemned, or that one should go ahead and say that those responsible are oblivious to other problems that are much more significant in the formation of contemporary architectural consciousness.

Architectural Review and *Casabella* are, from the cultural point of view, the most engaged reviews in the world: the most audacious and, as a consequence, the most open to criticism. One may accept or refute their positions, but no one who examines them openmindedly will want to deny that both make valid contributions through their critical discoveries, thorough research, and proposals leading to a more valid framing of the problem of current architecture, thus breaking up the schemas of modernist formalism.

I would like those who speak about us and about Italian architecture to use equally respectful language, and not mistake fireflies for lanterns, nor mix up the cards on the table, nor content themselves with statements that are improvised and, in any case, superficial and hasty.

For this reason it displeases me that the same review for which we have demonstrated so much respect, having even dedicated an essay to it (Matilde Baffa, "L'Architettura al vaglio di una rivista inglese," *Casabella* no. 220), would give space to an editorial like Mr. Banham's "Neoliberty—the Italian Retreat from Modern Architecture."

An editorial cannot be judged by the same standards as just any article, inasmuch as it customarily expresses the opinion of those in charge; it is where the convictions of the journal acquire an official character.

Mr. Banham, oblivious to the environment in which he works, evidently believes he is directing his accusation at those who have considered "the remaining monuments of Art Nouveau in a degree of detail that bespeaks more than historical interest. Works of Gaudí, Sullivan, d'Aronco, Horta, and the Viennese school, in particular [he writes], have been described and illustrated even to the extent of the original drawings and colour-blocks of their exteriors, supported by texts that were far less expository or explanatory than they were eulogistic and rhetorical." If the articles have been rhetorical, we are at fault, as we would be at fault if, for example, we had written what appears in an editorial in *L'Architettura* (no. 37, November 1958, page 439): "Rationalism, consumed in the prodigious metamorphosis of Ronchamp, committed here its subtle,

The extent to which the famous names of Milanese architecture have retreated can be judged by these two blocks by Figini and Pollini, one of 1949 in the via Broleto, 1, and the other in the via Circo, completed last year, 2.
3 and 4, the relationship of the retreat to historical precedents can be measured by comparing two illustrations, 5 and 6, of a late villa by Otto Wagner (as they appeared in Bruno Zevi's magazine L'Architettura*) with two recent works in which Ernesto Rogers was involved, the Aquila offices in Zavle, with their dummy pitched eaves concealing a flat roof behind, and the interior of the Italian Pavilion in Brussels, with its Wagnerian stained glass (and its "stupendous outburst of Milanese Chandelierism).*

[From Reyner Banham, "Neoliberty—the Italian Retreat from Modern Architecture," Architectural Review, *April 1959, p. 233.]*

virtuous, extenuated suicide; at seventy-two, Mies van der Rohe has ended the game. This fact must be the point of departure for judging the various problems of contemporary language: the tending toward Liberty, the formalism of the Milanese school, the complicated research of Scarpa and the brutalism of D'Olivo, the clever empiricism of Gardella in Venice. These are beginnings, attempts, experiments, all of which are open to discussion but vital, real, indicative of the possibility of relaunching modern architecture. Having rendered homage to Mies in the gleaming mausoleum of rationalism, we go out drinking with these friends who are less perfect and respectable, who are at times hedonistic and dissolute, but who at least have the courage to continue a tradition which was, until yesterday, that of Mies, the tradition of anticonformism."

For us, on the other hand, the modern movement is not dead at all: our modernity is really in carrying forward the tradition of the Masters (including Wright). But to be sensitive to the beautiful (and not only to the value of documenting it) in some manifestations that are no longer sufficiently appreciated is certainly a respectable position. And likewise, it is respectable to historicize and update certain values left hanging because of the need for other struggles.

Mr. Banham believes he has found (probably in the dusty drawers of that Victorian furniture) the magic key with which to open the sluice gates of history at any point, enabling the flow to deviate in the direction of his own private breeding farms of blood-thirsty moray eels.

It might be said that, for him, using an old Ford is more justifiable than using a horse because the Ford comes after the Industrial Revolution while the horse is obviously before. This comparison might be deduced from the conventional layout of the whole article, where it is maintained that, as far as imitations go, the architects who today follows De Stijl is better than the one who adopts Liberty since the former "at least revives forms created since the watershed" between our time and a past that is now over. In other words, it is better to steal five lire than ten. Many times I have repeated that "formalism is any use of unassimilated forms: ancient or contemporary, cultivated or spontaneous" (*Casabella* no. 202). Conversely, critical and considered review of historical tradition is useful for an artist who refuses to accept certain themes in a mechanical manner. For Mr. Banham, however, determinism of forms according to an abstract line of development seems to take the place of a concept of history.

From this derives his aptitude for bestowing absolutions and excommunications, which can only mummify reality.

No less objectionable is his system of elevating some poor person so high as to make him totter, only then to throw him so far down as to render him unrecognizable.

And even someone like me who, in line with his principles of freedom of opinion, is ready to consider any criticism, is not disposed to endure that which—like this—is contradictory not only in its evaluation of the facts, but even in its exposition of these facts, which require far more precise information and above all more correct citation.

Personally, it does not flatter me to be called the "hero-figure of European architecture in the late forties and early fifties" if I am then considered one of those responsible (together with Belgiojoso and Peressutti) for having curated the Italian section of the 1958 Industrial Design exhibition in London (with works by Albini and other first-rate colleagues) "which seemed to be little more than a hymn of praise to Milanese *borghese* taste at its queasiest and most cowardly."

I am responding because, in spite of everything (and certainly because of the authority of the journal that sponsors it), the article treating Italian matters with such

presumption has been much talked about here; I am responding because I am the main person condemned and because along with me are cited my two associates; because it is necessary to disentangle the discussion from a prejudice concerning a name, that of Neoliberty, with which, according to the extemporaneous classifications typical of Banham, architects of various ages, responsibilities, and tendencies are associated; and finally because, if this extended meaning of the name is granted, there ought to be included in it all those who attempt to avoid what I want to call by its true name, and that is conformism and formalism. The silence, for example, concerning a Gardella, a Ridolfi, a Michelucci, an Albini, a Samonà, engenders further confusion in the already great confusion of what has been said. I respond because I do not want to be accused of positions that we have not taken. Finally, I respond because, in refuting other people's affirmations, I hope to make it understood that I do not indulge in the attitude of "tout va très bien, madame la marquise," but rather that I worry, at least as much as Mr. Banham, about a certain dangerous trend of Italian architecture, the analysis of which I do not intend to evade insofar as it concerns my own responsibility as artist, critic, and teacher.

Mr. Banham declares himself to be disillusioned because, in the aftermath of the war, he had placed many hopes in us (in us Milanese above all), having even created a myth in order to locate us.

But who substantiates these "illusions" for him? Some Roman architects: Moretti and Vagnetti. The first in particular. He himself, anticipating our reaction, declares that we will, for our part, reject this interpretation of his. In fact, it is obvious that an adroit but willful formalism is not only not indicative of the supposed goals not reached by us, but it also denies the theoretical and above all moral presuppositions of our struggle, which shuns aestheticism and intellectual games.

As far as the work of the young architects goes: of Aulenti; the Novara group of Gregotti, Meneghetti, and Stoppino; as well as of Gabetti and Isola, it is not true that *Casabella* has published them "with evident editorial approval," because if it is obvious that nothing appears in this journal without my consent to its publication, I have openly shown my criticism precisely of the tendentious and conclusory value of these products, limiting myself to considering them significant examples of some young people intelligent enough to react to modernist formalism.

If, then, one wants to accuse them of being led, after an initially correct impulse, by a negative polemic, over and beyond an equally necessary action of positive reelaboration, that corresponds exactly to thoughts I expressed in *Casabella* no. 215 ("Continuity or Crisis?").

But this is not what Mr. Banham maintains, taking an extract as imprecise as it is unfaithful from an article by Aldo Rossi, "Il passato e il presente nella nuova architettura," where, with clearness and honesty, the latter criticizes his own friends on precisely those points concerning which Mr. Banham makes him look like a kind of demagogue of the bourgeois spirit.

On the other hand, in the very same issue of *Casabella,* no. 219, Aldo Rossi, making a critique of Hans Sedlmayr's book against modern art ("Una critica che rispingiamo"), and voicing a position widespread among young people in Italy, underscores the difference between a reactionary critique and a progressive critique of the modern movement: "The rejection of the values of the modern world necessarily implies a new barbarism, since *in any case* today it is not possible to ignore how much the modern world has characterized the Europe of these last years. . . . In essence the motive of

decisive dissent is still this: that this type of criticism does not point to a prospect of development, an alternative *within* modern culture, but poses itself as negation of modern culture."

Every alternative or development that we have supported has always been *within modern culture,* and it is for this reason that our task is laborious and difficult. Why has Banham, who wants to be the expert on things Italian, not sought to read better and more, rather than insist on his definitions of "Milanese" and "Torinese," which smack of banality?

Nor are Gabetti and Isola and the others in the same category because, if the definition of Neoliberty can be applied to the Bottega d'Erasmo (and to other works by other young architects sprouting up here and there in Italy), it can also be applied only if uselessly distorted to the different groups whose nostalgias, more than to Liberty, hark back perhaps to Dutch expressionism (for Aulenti) or to the eclecticism of Boito and Berlage (for Gregotti and Associates). As for the works of the "Cooperative of Architects and Engineers of Reggio Emilia," they are not at all Neoliberty and could almost be taken for examples of what Banham calls "current architecture."

Nor are Figini and Pollini Neoliberty; this is obvious even when they indulge in naturalistic thinking. If I were not driven to polemic by Banham's tone, I would find some usefulness in the alarm he has sounded, but that little bit of sanity that can be found in his observations and that might readily be agreed with—at least as indication of motives to investigate—finishes by corrupting itself in the tortuousness of his discussion, so much that his generalized accusation against the most recent manifestations not only goes beyond the modern movement in Italy, but displays such a rigid incomprehension of many fundamental events that it ends up indicting the wider developmental possibility of all international history. To listen to him, in modern Italian architecture, "the backstage influence of Marinetti (whom Sartoris once acknowledged in print as a patron of the movement) . . . was most likely to be felt."

What does it matter to us that Sartoris says this? One who has dull vision deforms everything he sees: "'modern' was practiced as a *style,* since it could not be practiced as a total *discipline*—as the literally hollow formalism of Terragni's Casa del Fascio at Como brilliantly demonstrates." Does Banham not see the relationship between form and content and does he not know of Terragni's struggles to give a moral content and form to fascism through his work? (He was unfortunately deceived.) And why did Pagano, Banfi, Labò die, if not because their artistic discipline could not do other than oppose itself to the rules of the dictatorship?

Banham ought to have recognized in a subtler manner that which has repeatedly been observed by our own writers: namely, the continuous dramatic struggle of culture in general against the contingencies of Italian society (before, during, and after fascism); from this he would have had to infer the difficulty of identifying art with life: the dialèctical relationship, the persistent lovers' quarrel, the conquests, the misunderstandings, the rejections, the redemptions. Then he would have intuited one of the most interesting aspects of our history: precisely that Italian architecture, in its authentic examples, is a moral act and, at least implicitly, an instrument of political struggle, alternating successes with failures, as in the entire political history of Italian progressive tendencies, but certainly not for this reason worthless or condemnable.

After the war of liberation and the stupendous period of partisan struggle, it seemed that the world, Europe, and Italy were resurrected to a definitely better life, and we fed ourselves on hopes, imagining that they represented reality, even though we

were forced to see that everywhere these were new utopias. Since then all of Italian society—that which is progressive and aware—clamors for breath so as not to be caught on the shoals of officialism. And the fact that there exists an architecture more loaded with feelings than with reason is not owed to a retreat by architects. Quite the contrary! It is a struggle against the current. What happens in the communal offices, in the administrative offices, must be noted. As ever, the small company of those who believe in art must grit their teeth to break a path beyond the barricades.

Is it not the case that Ridolfi, Gardella, B.B.P.R., Albini, Samonà, Michelucci, and Piccinato, among the most strenuous defenders of modernity, no longer do what they did before, and precisely for this reason are consistent; has Banham ever asked himself this? It cannot be believed that these people and many others would all at once have become irresponsible to the point of abdicating the conquests so laboriously achieved.

Their strength has really been that of having understood the modern movement as a "continuous revolution," that is to say, as a continuous development of the principle of adherence to the changeable contents of life.

Little by little the thematic became richer, and as a consequence the exigencies became subtler. Formal issues, therefore, became more difficult, because they tried to encompass an ever greater number of propositions—the widening of the architectural problematic and the immediate effect of critical thought; the historicist revision of all historical periods and especially those closest in time, which had been distorted through the normal opposition caused by the dialectical traffic between generations.

And Liberty too was better understood (and why not?) when there were still energies to collect and channel.

Liberty cannot be considered only in terms of its historical definition, as progenitor of modernity, but must also be considered in terms of its own values, which correspond, moreover, to a recognition so necessary that as a young student I already wrote about it in a thesis project.

What is there to be afraid of?

There is no doubt that it is necessary to look at the experiences of the past (at all of them), though naturally without letting oneself become entangled in them, as unfortunately—and I am the first to recognize it—happens to some.

This complex process of revision, however slow and elaborate, has been misinterpreted by those less prepared, who have been shocked by it. But it must be recognized in any case that such revision could make even the best ignore some cultural component (like the technological) to which more attention was paid in other moments. But progress is the result of choices and of suspensions of judgment, which at every moment can err by incompleteness; progress is paid for also with some mistakes. Yet I am persuaded that along with the dangers that Italian architecture is running, awareness does surface, despite the arrogant goading of Mr. Banham, who plays the part of *custodian of Frigidaires* and who furthermore believes that "the revolution . . . began with electric cookers, vacuum cleaners, the telephone, the gramophone, and all those other mechanized aids to gracious living that are still invading the home, and have permanently altered the nature of domestic life and the meaning of domestic architecture." Now that we are here, I would also add the blender, which would serve to make a nice cocktail together with the other revolutions which, according to him, have their "milestones" in the "Foundation Manifesto of Futurism, the European discovery of Frank Lloyd Wright, Adolf Loos's 'Ornament and Crime,'

Hermann Muthesius's lecture to the Werkbund Congress of 1911, the achievement of fully Cubist painting, and so forth." All that is lacking is a bit of salt.

I am persuaded that the whole experience has been useful. It has been so useful that Italian architectural criticism and production have taken, despite everything, some steps that in many countries are yet to be attempted.

The latter will certainly take these steps, and perhaps in a different direction, in accordance with what the particular cultural and economic conditions suggest, but I do not believe our experience, that of a proven historical consciousness, of the necessary usefulness of culture in the order of space and time—of the relation between new work and those preexisting factors—to be of little import, nor do I believe that these ought to be discarded with such superficiality.

Anyway, we do not presume to be the only ones who are moving forward: much more luminous examples come to us from the Masters: Le Corbusier has created Chandigarh with the echo of all India; Gropius the Embassy of Athens, steeped in Greek history; Mies a "monument" with the Park Avenue skyscraper in New York; and Wright, before he died, works which, while highly consistent in spirit, cannot be confined within the letter of many of his preceding declarations.

No one has stopped; concerning the Masters themselves one could paradoxically paraphrase an aphorism of Nietzsche: "He who remains a disciple rewards his own master badly."

This is so in our case, all the more for those of us who do not like to get frozen in slavish dogmatics.

If all that departs from the configurations of academic modernism or does not succumb, out of ill-advised escapism, to the bravado of formalism is Neoliberty, then we shall be in large and good company.

But if Neoliberty is really that tendency which retraces the steps of Liberty itself, then what we are talking about is giving the right frame to a little picture whose figures are represented, in Italy, by certain young architects who—I hope—are sufficiently aware as not to believe they sum up all of Italian architecture in themselves. And it is also to be hoped that they will soon notice some useless misunderstandings into which they have fallen. To conclude, I would like to invite Mr. Banham, who I believe knows English better than Italian, to read directly from *The Poetry of Architecture* by John Ruskin, a great Englishman, without repeating the outdated interpretation of Marinetti, a "revolutionary" Fascist who died wearing the cap of the Academy: "We shall consider the architecture of nations as it is influenced by their feelings and manners, as it is connected with the scenery in which it is found, and with the skies under which it was erected."

He will find there some starting points for the evolution of architecture.

1959

Trained as a painter, the Dutch artist **Constant** Nieuwenhuys became involved with surrealist circles in Paris after the war. His encounter with the Danish artist
172–75
Asger Jorn led them in 1948 to found the Cobra group together with the Belgian poet Christian Dotremont. Cobra was dedicated to the vitalism of *art brut* and opposed to all rationalistic forms of expression. After Cobra's dissolution in 1951 Constant moved to London for two years. There he became convinced that traditional painting was irrelevant to contemporary problems stemming from a "mechanized, technoid environment" and began to study the relation between urban space and human behavior. In 1953 he collaborated with the Dutch
347–60
architect Aldo van Eyck on a "color-space" installation in the Stedelijk Museum in Amsterdam. In the accompanying manifesto, entitled "For a Spatial Colorism," the authors rejected the use of color for decorative or functional ends, calling for the development of a chromatic "plastic reality" in architecture analogous to that in painting. Three years later, after attending the First World Conference of Free Artists staged by Jorn and the Italian painter Giuseppe Pinot-Gallizio in Alba, Italy, Constant joined their International Movement for an Imaginist Bauhaus. As a member of its "experimental laboratory," he explored the idea of unitary
167–71
urbanism (a concept originated by a related group, the International Lettrists, headed by Guy Debord in Paris), designing a pavilion for the laboratory, a plan of Alba based on "psychogeographic" routes, and an encampment for the gypsies who had been passing through this town in Italy for centuries. The last project became the first realization of unitary urbanist theory. Based on the notion of a mobile and nomadic architecture, it also served as the starting point of a scheme for a utopian city which Constant would call the "New Babylon."

In 1957, after a founding meeting in Alba, Jorn's Imaginist Bauhaus and Debord's International Lettrist merged with several other radical groups to form the International Situationist. As a protagonist of the new movement during its initial stage of development, Constant continued to elaborate the idea of unitary urbanism in projects and writings. The statement that follows was published in the first of the new series of *Potlatch*, formerly the Lettrist organ—its name derived from a ritual exchange of goods practiced by the Northwest Coast Indians, reinterpreted by Marcel Mauss in his *Essay on the Gift* and later by Georges Bataille as an expression of humanity's desire for "unconditional expenditure." In his article Constant criticizes functionalist urbanism, epitomized by the French *grands ensembles* of the 1950s, for its sterility. Drawing on the
427–36
ideas of the Dutch historian Johann Huizinga and Henri Lefebvre's philosophy of everyday life, he calls for a city conducive to psychic needs for play and creative use of leisure, proposing psychogeographic study techniques and models as a testing ground: "the science fiction of architecture."

Constant resigned from the Situationist group in 1960 when its program shifted from unitary urbanism to more directly political activities. A poetic fantasist of great plastic sensibility, he continued to develop the New Babylon on his own, envisioning a global system of megastructural "sectors," their labyrinthine circuits separated by green spaces. Commenting freely on the
266–69
space frames of Konrad Wachsmann and the suspended mast structures of
86–92
Buckminster Fuller, Constant imagined the citizens of a postrevolutionary future living in perpetual circulation and indeterminacy, liberated from fixed modes of production by cybernetic technology and able to reinvent their own environment on a purely creative basis. "The *homo ludens* of the future society will not have to make art, for he can be creative in the practice of his daily life."

Published as "Le Grand Jeu à Venir" in Potlatch: Informations intérieures de l'Internationale situationniste *1 (30), 15 July 1959. Courtesy of the author.*

The Great Game to Come
Constant

1. The necessity to construct whole cities rapidly and in large number, a necessity that involves the industrialization of underdeveloped countries and the prolonged crisis of housing since the war, has propelled urbanism to a central position among the problems of the present day. We in fact consider that all development is impossible in this culture without new conditions for our everyday surroundings. Urbanism must take stock of such conditions. First of all, it is necessary to state that the initial experiments undertaken by teams of architects and sociologists have faltered from lack of collective imagination, a fact we hold responsible for their limited and arbitrary approach. Urbanism as it is conceived by professional urbanists today is reduced to the practical study of housing and of circulation as isolated problems. The total lack of ludic solutions in the organization of social life prevents urbanism from rising to the level of creation, and the sad and sterile aspect of the majority of new housing districts testifies to this hideously.

2. The Situationists, explorers who specialize in play and leisure pastimes, understand that the visual aspect of cities counts only in relation to the psychological effects which it will be able to produce and which must be calculated as part of the sum of functions to be anticipated. Our conception of urbanism is not limited to buildings and their functions, but extends to the entire usage one will be able to make of them, or at least to imagine for them. It goes without saying that this usage will have to change as social conditions demand, and that our conception of urbanism is therefore above all dynamic. We also reject the establishment of buildings in a fixed landscape that now passes for the new urbanism. On the contrary, we think that all static and unalterable aspect must be avoided, and that the variable or furniturelike character of architectural elements is the condition of a supple relation with the events that they will live through.

3. Consciousness of future leisure time and the new situations that we are beginning to construct must profoundly change the prevailing idea that is the point of departure for urbanistic study; we can already enlarge our knowledge of the problem by experimentation with certain phenomena linked to the urban ambience: the animation of different streets, the psychological effects of diverse surfaces and constructions, the rapid change of the look of a space by ephemeral elements, the rapidity with which the ambience of places changes, and the variations possible in the general ambience of different neighborhoods. The *dérive*, as practiced by the Situationists, is an efficacious means for studying these phenomena in existing cities and drawing some provisory conclusions. The psychogeographic notion thus obtained has already led to the creation of plans and models of an imaginist type, which one can call the science fiction of architecture.

4. The technical inventions that are today at the service of humanity will play a great role in the construction of future city-ambiences. It is notable and significant that these inventions have up to the present added nothing to existing cultural activities, and that artist-creators have not known how to employ them. The possibilities of the cinema, of television, of radio, of rapid travel and communications have not been utilized, and their effect on cultural life has been the most miserable. The exploration of technology and its utilization for higher ends of a ludic nature is one of the most urgent tasks for bringing about the creation of a unitary urbanism at the scale that future society demands.

1961

Kenzo Tange rose to preeminence in Japan in 1949 when he won first prize in a competition to design the Hiroshima Peace Center on the site where the first atomic bomb had fallen four years earlier. A student of Kunio Maekawa, who had in turn been trained by Le Corbusier and Antonin Raymond, Tange was strongly affected by European modernism. He presented his Hiroshima project at CIAM's eighth congress in Hoddesdon in 1951, and in 1959 traveled to Otterlo to attend CIAM's final gathering. There he was among the few to express regret about CIAM's disintegration at a moment when he felt it more useful "to lay emphasis on the links that unite us all." At the same time he was strongly receptive to the new ideas on mobility being advanced by the Smithsons and Team 10. Taking exception to Ernesto Rogers's attempt to identify his work with a return to Japanese tradition, he stated that he did not wish to be so conservative as "Rogers himself in the case of the Torre Velasca," adding that "Creative work is expressed in our times in a union of technology and humanity. . . .Tradition can, to be sure, participate in a piece of creation, but it can no longer be creative itself." Two projects done at this time—for a terraced residential complex standing on an island in Boston's Back Bay (1959) and, above all, a plan for restructuring Tokyo (1960)—clearly marked a departure from the more object-oriented monumentality of Hiroshima (completed in 1956) and the *béton brut* expressionism of his Kurashiki Town Hall (1958–60).

181–83, 240–41

300–7

Tange's plan for Tokyo, designed in collaboration with Sadao Watanabe, Koji Kamiya, Noriaki Kurokawa, Arata Isozaki, and Heiki Koh, was first presented at the World Design Conference held in Tokyo in 1960. Comparable in visionary scope to Le Corbusier's 1922 Ville Contemporaine for Paris, a city for three million inhabitants, Tange's plan provided for ten million, a density on which Tokyo's population was verging at this date. The scheme was predicated on mass movement, speed, and automated communication. Rejecting the traditional fixed master plan, Tange approached the city as a living organism subject to a continuous cycle of growth and change—an idea derived from Team 10 and being developed at this time by the Metabolist group (among them Kurokawa)—seeking a form of organization responsive to dynamic patterns of urban flow and changing function. Believing that "the only way to save Tokyo is to change its basic structure," he rejected the model of the centripetal core expanding according to a radial-concentric pattern with outlying satellites, a schema he considered obsolete and dysfunctional for a city of this magnitude (and which had been proposed for Tokyo in 1956 on the model of Abercrombie and Forshaw's plan for Greater London), taking his cue instead from the linear city proposals that had been developed by various architects since the beginning of the century. To solve the problem of the city's exhaustion of buildable surface area, he boldly located a new civic axis running from the modern business center of Tokyo into the middle of Tokyo Bay, where a chain of megastructural space frames interlinked a cyclical system of superhighways and mass transit flanked by floating residential development.

319–24

The audacious proposal was worked out and even defended by Tange in pragmatic terms. Yet it entailed nothing less than a total redefinition of the city itself. The late-twentieth-century city was, in his view, "not merely a collection of people and functions," but "an open complex linked together by a communication network." Its function was no longer "to produce objects," but to "act as a brain center performing countless invisible tasks." If the period from 1920 to 1960 had been one of functionalism, Tange noted in a subsequent writing, the new period would be one of "structurism": "the process of formalizing the communicational activities and flows within spaces."

Despite Tange's emphasis on his scheme's flexibility and openness,

though, it was widely criticized for both its technological determinism and axial monumentality. Fumihiko Maki, a member of the Metabolist group, suggested that even though the megastructure allowed for changeable infill, it could itself become obsolete and thus prove "a great weight about the neck of urban society." Maki proposed instead "the system that permits the greatest efficiency and flexibility with the smallest organizational structure." The critique of "major structures" versus "minor objects" and the "overestimation of technology and productive progress for their own sake" was echoed by Aldo van Eyck, among others, while another Team 10 representative, Peter Smithson, objecting to the regimentation and overscaling of the components, raised the specter of Big Brother, charging that the vision of a megalopolis the majority of whose population was engaged in "tertiary" activities—communications—was not only unrealistic economically but failed to reckon with the political consequences of such a "centralized nation-city."

347–60
181–83

The debate opened by Tange's project had important repercussions on related tendencies around the world. The issue was approached in France as a debate over the "spatial city," while in Italy it was reframed in terms of the "new urban dimension" and the question of "total form." The critic Manfredo Tafuri, in an early essay entitled "The New Urban Dimension and the Function of Utopia" (*Architettura, cronache e storia,* February 1966), cautioned against "concepts of a global and all-resolving urban form, alternative in the sense of dissolving existing structures; of the identification of a utopia of scale with a social utopia .; of the cathartic value attributed to technological prophecy; of the reintegration of city and nature; and finally, of formal exaggeration introduced as an urban value in itself."

273–75
399–401
449–55

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A Plan for Tokyo, 1960: Toward a Structural Reorganization

Kenzo Tange

1. The nature of a city of 10,000,000: the importance of its existence and the necessity of its growth

Tokyo, New York, London, Paris, Moscow—all masses of population that have passed or will soon pass the 10,000,000 mark. People call them "overgrown cities," but before deciding whether they are really overgrown or not, we must first consider the conditions that necessitate their development, the importance of their existence, and the true nature of their functions.

The technological revolution of the twentieth century, and particularly of its latter half, is causing drastic changes in economic structure, in social system, and in living environment. Technical systems involving huge energy, such as that produced from the atom, and electronic controls are rapidly improving the industrial structure and furthering its organization. As a result, the circulation that occurs before and after production, as opposed to production itself, is becoming a more and more important part of the economic process. In order to control economic cycles in our capitalistic society and to encourage uninterrupted growth, it is becoming increasingly necessary to plan and organize this circulation. In the capitalistic societies the ties between government and business are becoming stronger, and in socialist countries they are already stronger than that.

Furthermore, it is now impossible to plan an industrial undertaking without reference to technological research or to the prospects for demand. The stimulation of demand, which we refer to in Japanese as the "revolution in consumption," has become an unavoidable part of economic circulation; without the mass communication that produces this stimulation there can be no mass production. This phase of the economy is beginning to control people's modes of living and their concept of life.

The process of economic circulation within a given country is determined by a complicated system of relationships in which government, politics, finance, control of production and consumption, technology, and communications are all intimately and mutually linked. The portion of the population which has charge of this system—we might call this the tertiary industrial population—has been greatly increased during the second industrial revolution. The growth in this sector of the population, the increase in its productivity, and the rise in its income are indices of economic expansion.

The functions that are gathering together in cities of the ten-million class are the pivotal functions of this tertiary phase of industrial production, and the people in the cities are the people who perform these functions. They are the organization men. In response to their high level of consumption, it is only natural that the tertiary functions of consumption, such as sales and services, should concentrate in the cities. Again, in Japan, which depends upon imports for raw materials, the factories concentrate in the coastal areas around the cities, in pursuit of the capital and the consumptive demand centered there. The factories, however, do not constitute the source of energy for the cities of 10,000,000. The source of energy is, after all is said and done, the tertiary production functions.

What I speak of as organization is not a single enterprise. It is neither fixed nor closed. It is a type of organization that results from the invisible network of communication produced by the technological revolution, an open organization in which any combination of function and function, of function and man, of man and man is possible. By virtue of

this organization, the individual functions go together to form the comprehensive function of a city of 10,000,000.

At any class level and in any field, organizations—they might be called conferences—are formed and dissolved. This organizational activity, while entailing many expenses, decides everything, creating wisdom, producing values, and connecting them with the world. Tokyo, a city of 10,000,000, is the organization of the pivotal functions of Japan, and as such it is so important that it controls the fate of the entire country. At the same time, world conditions are reflected in this organization with gradually increasing sensitivity.

People say that the organization man is alone, but even more alone is the man who is separated from this network. It is in order to connect themselves with this network that people gather in the cities. The telephone, the radio, television, the portable telephone, the video-telephone—all these indirect means of communication give rise to a greater demand and need for direct communication. When men carry messages, when they attempt to preserve the links between the various functions, there is a flow of movement, and it is this movement that makes the urban organization an organization. The city of 10,000,000 is an aggregation of a moving, flowing population.

Tokyo, then, is not merely a collection of people and functions. It is also an open organization in which the various functions communicate with each other and create the total function. What gives this organization its organic life is the flowing movement of the 10,000,000 people who are engaged in the communication of functions.

2. The physical structure of Tokyo: limitations and inconsistencies of the centripetal radial structure

Communication is the factor that gives organic life to the organization that is Tokyo. This city of 10,000,000 is, in effect, an open complex linked together by a communication network. As the technical means for communication improve, men instinctively feel the need for direct communication, and since transportation is necessary for direct communication, the transportation system is the basic physical foundation for the functional operation of the city.

The functions which are gathered in Tokyo seek closer mutual communication, and as a result they are drawn toward the center of the city. This civic center, once formed, grows larger and larger. At the same time, the people who perform the functions spread out into the suburbs in an effort to find cheap land. The city therefore assumes a form that is centripetal and radial. This has been the typical urban pattern since the Middle Ages, and the natural pattern that a city will follow if left to grow freely.

As the central urban district grows, there are more and more commuters, and as the suburbs grow, they travel farther. Hence the murderous confusion in the train stations of Tokyo today. The movement of the commuters is repeated daily at definite intervals. It constitutes a regular, permanent flow, which is sustained by the mass transportation organs. Though private railways and subways carry a certain percentage of the people, the main burden is shouldered by the national railway system.

With the growth of social organization and the division of functions, there is more and more free, individually motivated movement. In opposition to the steady flow of the commuters, this is a variable flow—one might say a flowing mobility. It is this mobility that gives the open organization of the city its organic life. And as leisure time increases, this flow grows larger, sustained largely by automobiles, which grow more and more numerous with the expansion of the economy.

Automobiles carry the flowing movement of traffic in the heart of the city and to a lesser degree in and between the urban subcenters. Though the number of automobiles per capita is less in Tokyo than in Western countries, it is growing fast, and with it the steady flow of commuters who drive their own cars is swelling.

In the center of the city, where the pivotal functions are concentrated, the variable flow is increasing at an accelerating rate. The result is that traffic in this area has almost reached a state of paralysis, but this does not alter the fact that the flow is both necessary and inevitable. Such mobility is needed to maintain the life of a city of 10,000,000. And it should be kept in mind that the increase in the flow is not what causes traffic confusion. Confusion results from the fact that the structure of the city cannot sustain the necessary mobility of the times. This is the failure of the radial city in which traffic moves toward the center.

The traditional radial plan can perhaps provide the mobility required by a city of 1,000,000, but that of 10,000,000 is beyond its limitations. In Tokyo, where movement is increasing by the day, it is urgent that a new system of transportation be constructed. And one which will bring city, buildings, and transportation into a single organic entity.

In addition, since the speed and scale of movement in the city is destroying the spatial order of the city, it is necessary to find a new order.

3. A plan for Tokyo, 1960: a proposal for a change in structure

As a reflection of Japan's economic expansion, Tokyo is developing and spreading at a rapid pace, and the flow of movement within the city is increasing in scale and speed. The human drive behind this growth is tremendous.

And yet this tremendous human drive is having the adverse effect of exposing Tokyo's incongruities, of throwing the city's functions into confusion, and of slowing down movement to the point of paralysis.

Many people consider that growth itself has produced confusion in the city, and that if growth is contained, the situation will improve. It is impossible, however, to curtail this growth, for that would be attempting to reverse a necessary historical trend.

We do not oppose such measures as the redistribution of factories throughout the country, the construction of satellite cities, or the removal of governmental and educational institutions to other locations. Such measures might in some respects be advantageous. In our opinion, however, the Tokyo that remained after these measures had been taken would still writhe in urban confusion. Furthermore, the causes that lead to the city's expansion would still remain in operation.

Tokyo will not be saved unless we keep our vision firmly fixed on Tokyo itself. Nothing is accomplished by escapism; there may be open spaces to which existing urban installations could be moved, but the problem of Tokyo's growth would continue.

People say that the city's expansion has been too rapid, but the real difficulty has been that our plans have been too small and our policies too old-fashioned. People are forever saying "we must be practical," but the type of "practicality" that has been exercised in Tokyo is impractical in the extreme. It is unrealistic and backward-looking.

We, for our part, recognize the necessity of Tokyo's growth, the importance of its existence, and the validity of the functions that it performs. Furthermore, we believe it possible to direct the human drive that has created the confusion of today into new channels, and for this reason we place forward a plan which we regard as both constructive and practical.

The city of 10,000,000 is an organism which has appeared only in the latter half

of the twentieth century. It is a historical novelty. In order to remain alive and to grow, it must have a structure befitting the twentieth century. Instead, however, the radial pattern of the Middle Ages, with its centripetal traffic system and its rows of buildings along the sides of streets, has been allowed to grow and grow without basic alteration.

The result is that the permanent structure of the modern metropolis is incompatible with the movement that is necessary to the life of the metropolis. The old body can no longer contain the new life. The radial pattern is incapable of the mobility that the city of 10,000,000 requires. Furthermore, the population of Tokyo twenty years from now will be about 15,000,000.

This is the inconsistency that lies at the root of Tokyo's confusion. There is only one way to save Tokyo, and that is to create a new urban structure which will make it possible for the city to perform its true basic functions.

We are not trying to reject the Tokyo that exists and build an entirely new city. We wish instead to provide the city with a revised structure which will lead to its rejuvenation. We are talking not merely of "redevelopment," but of determining a direction along which redevelopment should proceed. Redevelopment that is not orientated in a definite direction cannot solve the problems that face Tokyo.

In our proposal, the basic aims of redevelopment should be as follows:

1. To shift from a radial centripetal system to a system of linear development;
2. To find a means of bringing the city structure, the transportation system, and urban architecture into organic unity;
3. To find a new urban spatial order which will reflect the open organization and the spontaneous mobility of contemporary society.

4. From a radial structure to a linear structure: a proposal for cycle transportation

In the age when cities developed around central squares or plazas and when people lived within limits prescribed by regional societies, the central square was the nucleus of communication, and the cathedral, the castle, and the city hall were the spiritual supports, as well as the symbols, of urban life. Horses and carriages moving along radial streets past rows of buildings must have formed a very harmonious ensemble.

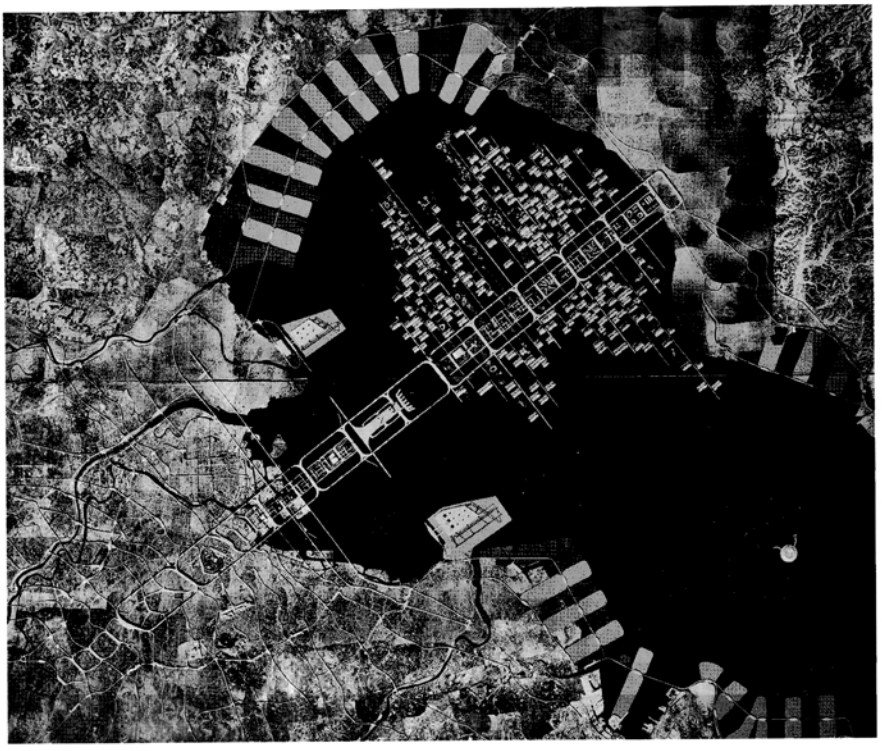
Now, however, mass communication has released the city from the bonds of a closed organization and is changing the structure of society itself. In the society with an open organization and in the pivotal city of this organization the mobility involved in free, individual communication is assuming a larger and larger scale. This movement, added to the fixed movement of regular commuters, has led to extreme confusion in the larger cities.

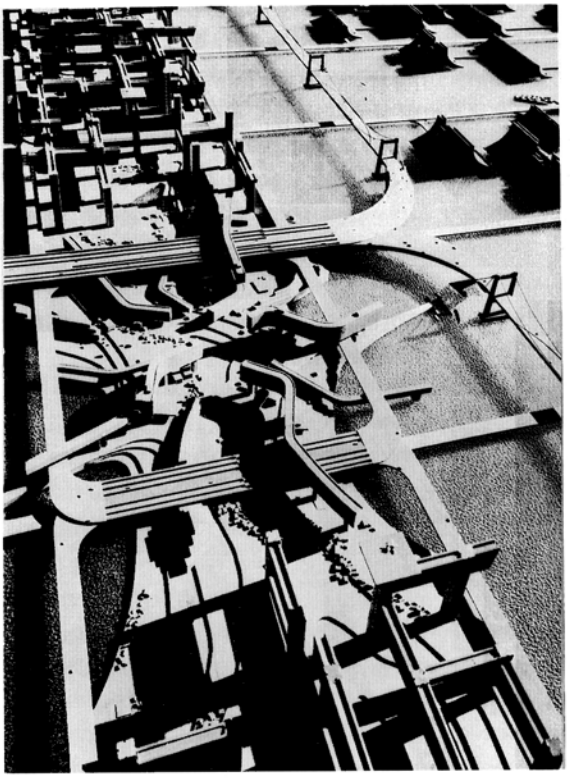
The urban system developed in the Middle Ages cannot withstand this movement, and the centripetal pattern is seeking to reform itself from within.

We reject the concept of the metropolitan civic center in favor of a new concept which we call the civic axis. This is tantamount to rejecting the closed organization of the centripetal pattern in favor of an open organization which makes possible a development along a linear pattern. In effect, we are proposing that the radial structure of Tokyo be replaced by an axis which develops linearly.

The evolution of radial cellular bodies into vertebrates and the changing of eggs into bodies are instances of the sort of development we have in mind, and they illustrate its necessity.

The manufacturing processes in modern factories will gradually be divided, and





the all-purpose machines which make for centralization will be broken down into component parts. At the same time, however, the work performed by these smaller machines will be unified by the linear movement of a conveyor system.

If the various functions of a great city were distributed along a line, communication linking them could be carried out in a minimum of time by movement along that line. Nothing could be simpler or quicker. The entire movement of a city of 10,000,000 would be sustained by this communication.

The cathedral, which sat quietly at the center of the closed organization, was the symbol of the city of the Middle Ages. For the open organization of the contemporary city of 10,000,000 the civic axis, along which the arterial movement that sustains urban life takes place, is a fitting symbol.

We propose for this civic axis a system of cyclical transportation. It is estimated that the Tokyo of twenty years hence will have a population of 15,000,000. This will probably mean that 2,000,000 or 2,500,000 people will have to gather along the civic axis in order to perform necessary urban functions. In addition it may be expected that five or six million people will flow into the axis each day. While many of these people will rely on mass transportation, there will also be flowing mobility of individual traffic. The present system of street and ordinary highways could never withstand the strain of such a volume.

With the existing system of highways, at the points of interchange it is unfeasible to have more than three lanes in one direction. The three-level cyclical system that we propose, however, overcomes this limitation with a series of overlapping links. In each link all traffic is one-way, but in any two neighboring links the direction of circulation is opposite, so that at the points where the links overlap, movement in both links is in the same direction. The overlapping links serve as points of interchange, the connection between upper and lower links being accomplished by means of ramps. The number of ramps is equal to the number of lanes, and the ramps alternate with continuing lanes. This type of highway could be made to handle ten times, or even thirty times, as much traffic as the present freeways, and a civic axis with a system of cycles of this design could serve as a rapid and effective means of communication for a city of any size.

The three levels of traffic would be divided in accordance with the speed of vehicles moving along them, and the lowest level would be divided in accordance with the speed of vehicles moving along them, and the lowest level would be a unit of a man-made "ground" which would contain several levels of parking space.

The cyclical transportation system is composed of a series of unending links, each link of which serves as a steady cycle of flow. Any number of links could be employed, so that the civic axis could develop unit by unit. A system of this sort would make it possible for any number of people to move freely and quickly among the functions lined up along the axis.

5. Organic unification of the city, the transportation system, and architecture: a proposal for unifying the core system and the *pilotis*

Transportation today is changing the relationship that links the city structure with traffic and architecture. Indeed, the automobile is completely overturning this relationship. In the past, people walked along a street until they arrived at their destination and then walked directly into a door. This fact has since ancient times determined the system of traffic and architecture in cities. The appearance of the horse and carriage created no need for a new system, and even when railways and trolleys were invented, people

felt no serious doubts about the old one. The problems and these new modes of transportation created were solved by means of stations.

In our age the automobile has altered the relationship between streets and buildings, but the old system remains in existence. The confusion that prevails in our cities today results largely from the fact that the automobile and the street system are incompatible.

The basic difference between the automobile and mass transportation facilities like the train and streetcar is that the automobile theoretically makes it possible for individuals to move freely from door to door. In other words, the automobile provides not mass, but individual transportation.

The appearance of the automobile has led to the division of vehicles and pedestrians, with the result that the relationship between street and buildings has come to resemble the relationship between railways and buildings. Even though buildings open on a street, it is usually impossible to park cars in front of them. There is need for a new sequence in which the automobile moves from high-speed highways to low-speed highways and then to parking spaces from which the passengers in the automobile can approach buildings. In other words, there is need for a new organization in which the urban system, the traffic system, and the architectural system are organically unified.

In response to this problem, the architectural pioneers of the early twentieth century developed the *pilotis* as a means for releasing ground space. Their idea was to create a public space on the ground where the movement necessary to modern society could take place and a quiet private space above ground where men could live and work. The *pilotis* area would serve as a link between the two types of space, and automobiles would move about on the ground without disturbing life within the private space above.

We have been using *pilotis* arrangements since we drew up the plans for the Hiroshima Peace Memorial. In the Tokyo City Hall, the *pilotis* area was divided into two levels, a lower one for automobiles and an upper one for pedestrians, and in our plan for a comprehensive metropolitan center for Tokyo, we carried this system through another stage of development. In general, this sort of solution appears to be one of the most promising means of redeveloping urban areas.

We are also proposing to make use of the core system, in which the vertical traffic in buildings as well as the service arteries—water ducts and electric wiring—are gathered together in single shafts forming the nuclei of buildings. The cores of buildings would become branches of the urban transportation and service arteries, so that architecture would be integrated with the urban system.

In our plan for Tokyo, we have devised means of unifying the core system and the *pilotis*. As we envision them, the cores of buildings take the place of columns, creating "columnless" *pilotis* areas under the buildings. This system is unified with the cyclical transportation system we propose.

Each link of the transportation system contains a unit of area with multilevel parking space. People would enter the parking space in their cars, get out of the vehicles, and then ride up into buildings in elevators situated in vertical cores. In this way the unit urban area and the highway system would intermesh, and there would be spatial order as well as a speed hierarchy linking, first, streets, interchanges, parking spaces, and buildings, and second, high speed, low speed, human speed, and immobility. Urban space would be restored to life.

6. The restoration of spatial order in the city: a new urban spatial order reflecting the open society and flowing organization of the city

In contemporary civilization and in the cities of 10,000,000 which form the nuclei of contemporary civilization, the speed and scale that have been made possible by modern technology are destroying spatial order.

The plazas, cathedrals, and city halls of the Middle Ages had a mass human scale which was united to the masses of people gathered in the urban centers, and which harmonized with the human scale of the roads radiating from them. Today, however, huge highways carrying high-speed traffic have intruded themselves into the old system. They represent a superhuman scale, which in no way harmonizes with the architecture of the late nineteenth century and the first half of the twentieth century.

The accumulation of capital in our time will doubtless work to increase the scale of construction still further, causing the order of urban space to be shaken to its very foundations. The new large-scale structures, which have long life cycles, will form the major framework of the cities, and they will be one of the decisive elements in the new urban spatial systems. When we consider that traffic can move at 100 kilometers per hour or more, however, the vastness of the new structures ceases to seem vast. The flow and speed of the present will doubtless lead to even larger-scale construction.

Nevertheless, man himself continues to walk in steps of a meter or so, and we are still surrounded by the unchanging human scale. Furthermore, whereas the life cycle of large-scale construction is growing longer, the life cycle of our houses and the articles we use in daily activities is gradually growing shorter. This fact results from our ever-increasing reliance upon manufactured goods and from our tendency to take up new things and discard them more and more rapidly.

Individuality, freedom, and spontaneity form an ever-strengthening antithesis to the control of technology. Man desires more and more to exercise his own individual choice in matters that concern houses, gardens, streets, and plazas.

There are, then, two conflicting extremes—the major structures which have long life cycles and which, while restricting individual choice, determine the system of the age, and the minor objects that we use in daily living, which have a short life cycle and which permit the expression of free individual choice. The gap between the two is gradually growing deeper.

The important task facing us is that of creating an organic link between these two extremes and, by doing so, to create a new spatial order in our cities. The centripetal hierarchy of the cities of the Middle Ages will no longer serve, for it represents an order determined by the fact that man walked on his own two feet. In the moving, flowing cities of our time, pedestrian traffic and automobile traffic intersect, and the direction of both is variable. Movement is not closed and centripetal, but open and fluctuating.

The spatial order in cities will doubtless become richer in content as time goes on. It will come to include not only spaces of an orderly nature, but free, nonordered spaces as well.

We have put forth several plans dealing with the spatial relation of the two extremes. In the Kurashiki City Hall, the M.I.T. plans, the W.H.O. plans, and in the present plan for Tokyo, we have tried to provide freedom within a more systematic spatial structure, and in the Kagawa Housing project as well as the plans for housing on the filled-in land in this project, we have tried to find order within free disorder in groups of buildings.

We must seek order in freedom and freedom in order. It is by relating these two extremes that we will create a new spatial organization for contemporary cities.

1961

In 1949 the Title I slum clearance provision of the Federal Housing Act had empowered urban administrators and public housing bureaucrats—epitomized
55–63
by Robert Moses, Public Works Commissioner of New York City—to meet postwar housing needs by building superscale high-rise apartment blocks. By the early 1960s, the degraded incarnations of the Radiant City, first idealistically proposed by Le Corbusier in the 1920s, were being so ruthlessly implemented under the pragmatic imperatives of "urban renewal" that architecture journalist **Jane Jacobs** was driven to direct political action in order to defeat a Housing and Redevelopment Board plan that threatened to bulldoze her neighborhood in downtown Manhattan. In *The Death and Life of Great American Cities,* written earlier the same year, she had lovingly portrayed the same West Village streets as a counter to the "blight of dullness" of present-day planning. Incorporating sociological insights, economic analysis, and persuasive prose to challenge the orthodoxies of professional planners, Jacobs optimistically endorsed the pluralist city, spelled out in phrases like "exuberant diversity" and "planning for vitality." Her "realistic" prescriptions for civic-minded behavior and safe street life—"eyes on the street"—were directed against the single-use zoning that was then normative practice in urban planning, a legacy of CIAM's functionally compartmentalized urbanism. Yet the problem with functionalism was more than a matter of good intentions gone awry for Jacobs. Her book unequivocally indicted the entire modernist tradition of the designed urban utopia as "statistical."

The response to Jacobs's passionate book was enormous and none of it neutral. Touching a receptive chord among those in both the profession and the lay public seeking amelioration for urban decay, rampant inner-city crime, and the middle-class's flight to the suburbs, the book was widely reviewed in both the popular and architectural press. The professional readership, stung by her idolatrous assault on modernism's "sacred cows" (as *Progressive Architecture* put it in a feature of April 1962), faulted the uncredentialed author for amateurism and adherence to a single model as a panacea—low-rise high-density housing on mixed-used streets—even while acknowledging the thrust of her argument.
107–9
Lewis Mumford, whose book *The City in History* was published the same year, was provoked by Jacobs's attack on the Garden City ideal, of which he had been a career-long proponent. In Jacobs's view, the planned suburbs of Ebenezer Howard, Patrick Geddes, and others were simply the horizontal and antiurban correlates of Le Corbusier's towers-in-the-park. Mumford responded with a twenty-page review in the *New Yorker* (December 1, 1962) entitled, with some sexism, "Mother Jacobs' Home Remedies." "If people are housed in sufficiently congested quarters—provided only that the buildings are not set within superblocks—and if there is a sufficient mishmash of functions and activities," he wrote sarcastically, "all her social and aesthetic demands are satisfied."

442–45
Yet Jacobs's book helped unleash the community activism of the 1960s. It is often credited with more. A decade later, when the authorities in St. Louis dynamited the notorious Pruitt-Igoe public housing block—an award-winning design by Minoru Yamasaki of the mid-1950s later plagued by a high incidence of crime ascribed to its anonymous corridors and unsafe open spaces—many saw it as the auto-da-fé of modern architecture and a symbolic confirmation of Jacobs's diagnosis. The impact of design on urban crime would be studied in greater depth by Oscar Newman in his widely read *Defensible Spaces* (1972).

The following excerpt comes from the introduction to Jacobs's book. She would return to the economics of housing in *The Economy of Cities* (1969).

from *The Death and Life of Great American Cities*
Jane Jacobs

[. . .] There is a wistful myth that if only we had enough money to spend—the figure is usually put at a hundred billion dollars—we could wipe out all our slums in ten years, reverse decay in the great, dull, gray belts that were yesterday's and day-before-yesterday's suburbs, anchor the wandering middle class and its wandering tax money, and perhaps even solve the traffic problem.

But look what we have built with the first several billions: Low-income projects that become worse centers of delinquency, vandalism, and general social hopelessness than the slums they were supposed to replace. Middle-income housing projects which are truly marvels of dullness and regimentation, sealed against any buoyancy or vitality of city life. Luxury housing projects that mitigate their inanity, or try to, with a vapid vulgarity. Cultural centers that are unable to support a good bookstore. Civic centers that are avoided by everyone but bums, who have fewer choices of loitering place than others. Commercial centers that are lackluster imitations of standardized suburban chain-store shopping. Promenades that go from no place to nowhere and have no promenaders. Expressways that eviscerate great cities. This is not the rebuilding of cities. This is the sacking of cities.

Under the surface, these accomplishments prove even poorer than their poor pretenses. They seldom aid the city areas around them, as in theory they are supposed to. These amputated areas typically develop galloping gangrene. To house people in this planned fashion, price tags are fastened on the population, and each sorted-out chunk of price-tagged populace lives in growing suspicion and tension against the surrounding city. When two or more such hostile islands are juxtaposed the result is called "a balanced neighborhood." Monopolistic shopping centers and monumental cultural centers cloak, under the public relations hoohaw, the subtraction of commerce, and of culture too, from the intimate and casual life of cities.

That such wonders may be accomplished, people who get marked with the planners' hex signs are pushed about, expropriated, and uprooted much as if they were the subjects of a conquering power. Thousands upon thousands of small businesses are destroyed, and their proprietors ruined, with hardly a gesture at compensation. Whole communities are torn apart and sown to the winds, with a reaping of cynicism, resentment, and despair that must be heard and seen to be believed. A group of clergymen in Chicago, appalled at the fruits of planned city rebuilding there, asked,

Could Job have been thinking of Chicago when he wrote:

Here are men that alter their neighbor's landmark . . . shoulder the poor aside, conspire to oppress the friendless.

Reap they the field that is none of theirs, strip they the vineyard wrongfully seized from its owner . . .

A cry goes up from the city streets, where wounded men lie groaning . . .

If so, he was also thinking of New York, Philadelphia, Boston, Washington, St. Louis, San Francisco, and a number of other places. The economic rationale of current city rebuilding is a hoax. The economics of city rebuilding do not rest soundly on reasoned investment of public tax subsidies, as urban renewal theory proclaims, but also on

vast, involuntary subsidies wrung out of helpless site victims. And the increased tax returns from such sites, accruing to the cities as a result of this "investment," are a mirage, a pitiful gesture against the ever increasing sums of public money needed to combat disintegration and instability that flow from the cruelly shaken-up city. The means to planned city rebuilding are as deplorable as the ends.

Meantime, all the art and science of city planning are helpless to stem decay—and the spiritlessness that precedes decay—in ever more massive swatches of cities. Nor can this decay be laid, reassuringly, to lack of opportunity to apply the arts of planning. It seems to matter little whether they are applied or not. Consider the Morningside Heights area in New York City. According to planning theory it should not be in trouble at all, for it enjoys a great abundance of parkland, campus, playground, and other open spaces. It has plenty of grass. It occupies high and pleasant ground with magnificent river views. It is a famous educational center with splendid institutions—Columbia University, Union Theological Seminary, the Julliard School of Music, and half a dozen others of eminent respectability. It is the beneficiary of good hospitals and churches. It has no industries. Its streets are zoned in the main against "incompatible uses" intruding into the preserves for solidly constructed, roomy, middle- and upper-class apartments. Yet by the early 1950s Morningside Heights was becoming a slum so swiftly, the surly kind of slum in which people fear to walk the street, that the situation posed a crisis for the institutions. They and the planning arms of the city government got together, applied more planning theory, wiped out the most run-down part of the area and built in its stead a middle-income cooperative project complete with shopping center, and a public housing project, all interspersed with air, light, sunshine, and landscaping. This was hailed as a great demonstration in city saving.

After that, Morningside Heights went downhill even faster.

Nor is this an unfair or irrelevant example. In city after city, precisely the wrong areas, in the light of planning theory, are decaying. Less noticed, but equally significant, in city after city the wrong areas, in the light of planning theory, are refusing to decay.

Cities are an immense laboratory of trial and error, failure and success, in city building and city design. This is the laboratory in which city planning should have been learning and forming and testing its theories. Instead the practitioners and teachers of this discipline (if such it can be called) have ignored the study of success and failure in real life, have been incurious about the reasons for unexpected success, and are guided instead by principles derived from the behavior and appearance of towns, suburbs, tuberculosis sanatoria, fairs, and imaginary dream cities—from anything but cities themselves. [. . .]

1962

In 1947 at Bridgwater the young Dutch architect **Aldo van Eyck** attended his
100–2 first CIAM meeting. There he voiced a critique of the abstract functionalism that CIAM had pursued since 1928. Deploring the fact that "the struggle between imagination and common sense ended tragically in favor of the latter," Van Eyck asked whether "CIAM intend[s] to 'guide' a rational and mechanistic conception of progress toward an improvement of human environment, or . . . to change this conception." Over the next decade this question remained at the heart of CIAM's ultimately unsuccessful attempt to reorient itself, and Van Eyck, as a member of Team 10, helped to bring about its demise. For its Otterlo meeting in 1959, he prepared a special issue of *Forum*, the Dutch journal he would edit from 1959 to 1963, which was in effect CIAM's obituary and a manifesto of his own concerns.

The 1950s had been a significant period of contacts and activities for Van Eyck. Trips to central Africa, first inspired by his reading of Marcel Griaule's ethnological account of Dogon culture in the Surrealist journal *Minotaure*, spurred his interest in anthropology and primitive dwelling forms. This interest found its way into CIAM's discussions at Aix-en-Provence in 1953 by way of his friendship with Sigfried Giedion, chairman of the aesthetics commission.
107–9 Recasting the debate on regionalism, the commission report acknowledged, "a primitive Cameroon hut has more aesthetic dignity than most prefabricated houses." But despite such accommodations, the stand taken by the old CIAM
176–80 guard—Gropius's "dear industry happy future teamwork no art no primadonnas kind of gruel" (as Van Eyck later put it)—proved unpalatable to the young architects gathering around Van Eyck, Jacob Bakema, and Peter and Alison
181–83 Smithson. Team 10 was born at a meeting in Doorn, Holland, the following spring.

314–18 Van Eyck was also close in the early 1950s to the Dutch artists Constant and Karel Appel, who belonged to the avant-garde group Cobra and espoused an art of spontaneity and *art brut* directness. Their aesthetic, which influenced
240–41 the Smithsons as well, represented a kind of dialectical other or "counterform" to the legacy of De Stijl. But the latter would remain a vital inspiration for Van Eyck. It became the crux of an argument with the older Rotterdam architect W. van Tijen, whose technical-social rationalism Van Eyck attacked as lacking in Rietveld's imagination. Van Eyck's architecture also had affinities with the work of
270–72 Louis Kahn at this time, as evident in the resemblances (perhaps unconscious) between Kahn's Trenton Bathhouse (1954–59) and his seminal Children's Home in Amsterdam of 1955–60. Less concerned with what the building "wanted to be" than with its inhabitants' experience of it, though, Van Eyck diverged from Kahn in his more anthropological conception of space.

Many of Van Eyck's key ideas recur in the following essay, which he wrote as an introduction to a special issue of *Forum* on Pueblo architecture. Among these are the notion of "twinphenomena"—the both/and nature of things—and of "identifying devices," elements that make a space humanly comprehensible. The "configurative discipline," an idea Van Eyck developed from 1954 on, is a design method in which part and whole reinforce each other's identity in a relationship of reciprocity, summarized in the paraphrase of Alberti, "a city is a huge house and a house a tiny city." The city becomes "a hierarchy of superimposed configurative systems multilaterally conceived" —a metonymic rather than additive solution to
325–34 the "aesthetics of the great number" (and thus a critique of Tange's megaform). The method was later applied by Van Eyck's followers Piet Blom and Herman Hertzberger, though in a more didactic spirit. It also led to an altercation with Christopher Alexander over the city-as-tree analogy: in Van Eyck's view, the city,
379–88 like the tree, was too poetic a figure to be quantified, even as a semilattice.

From Forum *3 (August 1962), pp. 81–93. Courtesy of the author.*

Steps toward a Configurative Discipline

Aldo van Eyck

Open up that window and let the foul air out.—Jelly Roll Morton

Architecture—planning in general—breathes with great difficulty today. Not because of the erroneous obstacles society casts in its way, but because architects and planners refuse to extend the truth that man breathes both in and out into built form. The breathing image epitomizes my conception of twinphenomena—we cannot breathe one way, either in or out. As to what Jelly Roll cried: which window and what foul air? The "window" is relativity and the "foul air" . . . well, it is what exudes from the aggressive halves into which twinphenomena are brutally split by some disease of the mind which, in our particular part of the world, has been devoutly cultivated for 1962 years!

Right-size

I am again concerned with twinphenomena; with unity and diversity, part and whole, small and large, many and few, simplicity and complexity, change and constancy, order and chaos, individual and collective; with why they are ignobly halved and the halves hollowed out; why too they are withheld from opening the windows of the mind!

As abstract antonyms the halves are rendered meaningless. As soon, however, as they are permitted to materialize into house or city their emptiness materializes into cruelty, for in such places everything is always too large and too small, too few and too many, too far and too near, too much and too little the same, too much and too little different. There is no question of right-size (by right-size I mean the right effect of size) and hence no question of human scale.

What has right-size is at the same time both large *and* small, few *and* many, near *and* far, simple *and* complex, open *and* closed; will furthermore always be both part *and* whole and embrace both unity *and* diversity.

No, as conflicting polarities or false alternatives these abstract antonyms all carry the same luggage: loss of identity and its attribute—monotony. Monotony not merely in the sense of uniform because, as I have already said:

If a thing is too much and too little the same, it will also be too much and too little different. Right-size will flower as soon as the mild gears of reciprocity start working—in the climate of relativity; in the landscape of all twinphenomena.

The amorphous and additive character of all new towns—their heterogeneous monotony—is the immediate result of the complete absence of right-size. Those urban functions which were not forgotten were compartmentalized. The actual building elements were subsequently arranged academically according to a trivial infill habit, and the open space between them is so casually articulated and emptied of every civic meaning that they loom up like oversized objects, pitilessly hard and angular, in a void (what Candilis justly calls *espace corridor*).

Within the tyrannical periphery of such objects there is no room for emotion; nor is there any in the resulting emptiness between these objects. Emptiness has no room for anything but more emptiness.

All urban ingredients curdle, all urban colors clash. Just planned wasteland.

The devaluation of various abstract antonyms

Now the object of the reciprocal images contained in the statement *make a bunch of*

places of each house and every city; make of each house a small city and of each city a large house is to unmask the falsity which adheres to many abstract antonyms: adheres not merely to small versus large, many versus few, near versus far, but also to part versus whole, unity versus diversity, simplicity versus complexity, outside versus inside, individual versus collective, etc., etc.

It seems to me that these reciprocal images furthermore upset the existing architect-urbanist hierarchy. It is what I wanted them to do—gladly.

To proceed from the idea of dwelling, in the sense of "living" in a house, in order to arrive at the idea of living, in the sense of "dwelling" in a city, implies proceeding simultaneously from the idea of living, in the sense of "dwelling" in a city, in order to arrive at the idea of dwelling, in the sense of "living" in a house. That is as simple and involved as it actually is!

When I say, therefore, make a welcome of each door and a countenance of each window: make of each a place, because man's home-realm is the inbetween realm—the realm architecture sets out to articulate—the intention is again to unmask false meaning and to load the meaning of size with what right-size implies! As soon as the equilibrating impact of the inbetween realm—extended so that it coincides with the bunch of places both house and city should be—manifests itself in a comprehensibly articulated configuration, the chances that the terrifying polarities that hitherto harass man's right composure may still be reconciled will certainly be greater.

It is still a question of twinphenomenon, a question of making the inbetween places where they can be encountered, readily mitigating psychic strain. What is direly needed is a dimensional change in both our way of thinking and working which will allow the quantitative nature of each separate polarity to be encompassed and mitigated by the qualitative nature of all twinphenomenon combined: the medicine of reciprocity.

First approach to a configurative discipline

Commenting on some housing projects by Piet Blom (published in *Forum* 7, 1959, and 5, 1960–61) I stressed the fact that these projects did not depend on current types of housing, since the latter have amply proved their own obsolescence, especially in a larger context. Nor do these projects depend on the current narrow views of what inside and outside, individual and public space mean; nor for that matter on the frozen quartet of functions and the foolish severing of urbanism from architecture into two conflicting disciplines.

They successfully demonstrate the validity of a way of thinking and corresponding design process which I have advocated for many years.

By liberating oneself of the abject burdens mentioned above, by crossing the frontier of established practice—though not of what is plausible—and making constructive use of the kind of capacity rejection of the obsolete precludes if new valid forms are to replace it, it is now possible to invent dwelling types which do not lose their specific identity when multiplied, but, on the contrary, actually acquire extended identity and varied meaning once they are configurated into a significant group.

What is essentially similar becomes essentially different through repetition instead of what is but arbitrarily "different" becoming arbitrarily "similar" through addition (a universal city-molesting sickness).

Each individual dwelling possesses the potential to develop, by means of configurative multiplication, into a group (subcluster) in which the identity of each dwelling is not only maintained but extended in a qualitative dimension that is

specifically relevant to the particular multiplicative stage to which it belongs. Whilst the resulting group is, in turn, fortified in the next multiplicative stage by a new identity which will again enrich that which precedes it.

As it is, all hitherto adopted methods impoverish whatever limited identity a preceding numerical stage may possess as such. In fact the absurd truth of it is that the identity of a dwelling, if it has any at all, is at present almost invariably such that it is incapable of surviving the very first repetitive stage, i.e., that of the single block! This demonstrates that the established design mechanism is unable to cope with plurality; that it deals with the wrong singular in a basically wrong—additive—way.

It is of course true that the plural must first acquire meaning in human terms if it is to be guided by the still unexplored aesthetics of number.

But the reverse is equally true. We simply cannot embark on one without the other—they are both part and parcel of the same problem.

The identity of a smaller cluster—its intrinsic "gestalt" in human terms, i.e., its real "dwelling" potential—is embraced and intensified in that of the larger one which grows out of it through further repetition, whilst the identity of the larger cluster is latently present in the smaller one. This, of course, points toward the meaning of unity through plurality and diversity; diversity through unity and configurative similarity, but also toward the need to articulate both interior and exterior space as clearly and consistently, since only their complete ambivalent accordance can ultimately constitute the sequences of places that must accommodate the occasions which real urban existence calls for.

This is why I propose so emphatically not only a far greater comprehensibility at all stages of multiplication but also a radical enlargement of scale in the sense of far greater configurative compactness. Furthermore, a greater audacity of form and articulated place-clarity within a closely knit compound rather than an amorphous texture of inevitably oversized items (oversized, however measurably insignificant) additively arranged in space-emptiness.

But it is also why I propose a greater urbanity since this implies a far closer meshing of all urban functions, aspects, and kinds of human association. A far greater affinity toward their interdependent multimeaning on the part of the architect is a first condition. Hence the citylike nature of a house and the houselike nature of a city.

All configurative stages of multiplication—simultaneously rather than consecutively conceived—cannot acquire real significance until they coincide to some extent at least with the illusive configuration of the individual and the collective. Fuel for the entire process as well as recipient of the engendered warmth.

To achieve this end, more is required than a fugal configuration of dwellings. We must indeed proceed from this but we must also proceed from more than this. Why is apparent enough, since it is those functions that every plurality of people required in order to exist within an urban cluster in a fashion and degree of urbanity pertinent to it which must further identify each configurative stage.

We must do all that can be done in our field to make each citizen know why it is good to live citizenlike in a city built for citizens, for a city is not a city if it is just an agglomeration for a very large "population"—a meaningless accretion of quantities with no real room for anything beyond mere survival.

Coincidence of urban identity and dwelling configuration

It is a question of multiplying dwellings in such a way that each multiplicative stage

acquires identity through the significance of the configuration at that stage.

I say, through the "significance" of the configuration in order to make it clear that it is not merely a matter of visual form, since this alone would be purely academic, but of significant content transposed through structural and configurative invention into architecture. Each multiplicative stage should therefore achieve its appropriate identity by assimilating spontaneously within its structural pattern those public facilities this stage requires and which inseparably belong to it.

The important question here is, therefore, how to identify the part in terms of the whole, i.e., what can identify it beyond the multiplicative stage reached. How is one to comprehend whether the cluster one resides in is self-contained and independent, or a dependent configurative part of a larger cluster?

To put it in general terms: by what means can the degree of "urbanity" (literally used as derived from *urban*) that belongs to the particular complexity and scale of a given urban entity be identified throughout—i.e., become significantly comprehensible in terms of what it actually is?

It seems to me that at each multiplicative stage large elements with a wide specifically civic meaning or city-forming potential, beyond that of the immediate public requirements the stage calls for locally, should be included within its configuration.

On a city level these elements are so manifold that if meaningfully localized in a framework of urban reference they could help to impart a specific urban identity to each subarea—a different one, moreover, in each case. Such decentralization of the civic possibilities that belong to a large city would impart citylike identity evenly instead of concentrating it in one or a few centers. It would, at any rate, counteract the kind of urban congestion through overpressure, which of course goes hand in hand with suburban anemia as its equally nefarious counterpart, and impute fuller urban context to the subareas beyond their specifically local context.

Each citizen would thus "inhabit" the entire city in time and space. (See John Voelker's scheme, *Forum* 1, 1960.)

It may sound paradoxical but decentralization of important city-scale elements will lead to a greater appreciated overall homogeneity. Each subarea will acquire urban relevance for citizens that do not reside there. The urban image—awareness of the total urban cluster—is then no longer represented by strictly personal place-reference, different for each citizen, and a center common to all, but, apart from such personal place-reference, by a gamut of truly civic elements more or less equally distributed and relevant to all citizens. As I have already suggested, such elements will bring varied specific identity to each subarea. They will, moreover, induce citizens to go to parts of the city otherwise meaningless to them.

How obsolete the accepted ingredients with which most city plans and housing projects are additively concocted really are, certainly in Holland, is demonstrated by the schemes which have tentatively succeeded in reestimating the meaning of many, if not yet all, urban ingredients and inventing new forms and ideas for them by means of one single simultaneous configurative discipline. Those housing projects which are real sources of inspiration today demonstrate new dwelling types; new methods of access; communication and integrating public facilities through a single complex, constructive, and sequential discipline.

All these matters coincide in that they constitute part of each other's immediate counterform and are contained in each other's embracing periphery.

The house, for instance, is thus also part of the street, whilst the street, reinterpreted,

is included in the house in that it is not necessarily exterior to it in the limited sense—nor, for that matter, are external living spaces. All ingredients are redefined and closely meshed.

The vehemence of vast plurality

Provided the dimension of a given cluster is fairly small, whether independent or part of a larger urban complex, the suggested configurative process could no doubt bring about the required overall comprehensibility. In city scale clusters or entire cities, however, the forces and movements which result from these forces—the vehemence of vast plurality—are so great that functional and emotional conflicts ensue with which even the sequential configurative process I have referred to cannot fully cope. This is due to the heaping up of quanta which, even if they may one day be so interadjusted as to become compatible, confront us today in their apparent discrepancy as irreconcilables which the citizen can no longer respond to positively, but which together, nonetheless, belong to the essence of the citizen's environment.

The accumulative nature of cities today is such that the forces which cause it, and the movements which ensue, cannot be canalized adequately in time and space by any of the ideas and methods hitherto accepted by urbanists whether in the CIAM tradition or not.

Amorphous texture versus comprehensible structure

Nor will the configurative process manifested in the outstanding schemes already referred to, which deal with the grouping of a large though still limited number of dwellings and the public facilities this number requires, suffice, unless the "infrastructures" are so conceived that identity is maintained locally as well as throughout the entire city-compound. If this fails, what we shall end up with will, in spite of the desired opposite, again become an amorphous additive texture instead of a comprehensible configurative structure; a mere arrangement, still, of *some* urban components instead of a meaningful configuration of *all* urban components in the right association.

Locally the configurated subareas will, no doubt, be richer and more habitable by virtue of the same fugal process of thinking that brought about the housing schemes mentioned. A great advance indeed—but the vastness of the urban areas covered and the numerical problems that go with it can well cause the successful establishment of identity during the initial stages of multiplicative configuration to be discontinued during the further ones so that textural incomprehensibility instead of structural comprehensibility will again result. It is not my intention to devaluate what has been gained so far by reciprocal thinking and the configurative design process that goes with it. The process is certainly the right one; it must only be extended because, as yet, it has the numerical limits I have just dealt with. But they can be resolved if new structural devices are invented that have urban validity for all citizens and impose a clear, large, and comprehensible overall framework on the whole urban entity within which the smaller numerically limited configurations are integrated and acquire overall specifically urban identity. These large structural devices may be the "infrastructures" about which the Smithsons have thought a great deal; they may be the "megastructures" which have also occupied the minds of Tange, Maki, Ohtaka, and Kurokawa.

(An inspiring scheme for a total and very compact habitat on which Piet Blom is at the moment working—it will be published in a forthcoming number—attempts to

integrate the smaller and larger urban components by means of a single configurative discipline, proving tentatively that this is certainly possible.)

Without such large identifying structures the vehemence of the forces and movements that belong to a city—and make it a city—cannot but assault the identity meaningful configuration may have acquired within it. Whilst it is certainly possible to guide repetition through the initial stages of multiplication—the schemes already published demonstrate this effectively—it is not possible to maintain, extend, or augment identity through any number of stages by continuing the fugal process beyond the stages it can cope with.

Whether it will be necessary to subordinate it from the start to a large structural service framework (Tokyo Bay plan), or whether the configurative process can become so rich that it incorporates all components, including the most intimate, as Blom's new plan (albeit for a much smaller cluster) attempts, is a question of crucial importance. I, for my part, do not believe that these two concepts are incompatible. On a vast metropolitan scale, at any rate, their integration seems inevitable. The configurative discipline already discussed should at all costs be extended and enriched as far as possible.

Already in Forum *7, 1959, the necessity to uncover the still hidden laws of numerical aesthetics—what I call harmony in motion—was brought forward. Failure to govern multiplicity creatively, to humanize number by means of articulation and configuration has already led to the curse of the new towns!*

They demonstrate how the identity of the initial element—the dwelling—has hardly proved able to survive even the very first multiplicative stage—those in Holland are terrifying examples of organized wasteland. The fact is that in most cases the initial elements had no identity to lose anyway!

The aesthetics of number

In order that we may overcome the menace of quantity now that we are faced with *l'habitat pour le plus grand nombre,* the aesthetics of number, the laws of what I should like to call "harmony in motion" must be discovered. Projects should attempt to solve the aesthetic problems that result through the standardization of constructional elements; through the repetition of similar and dissimilar dwellings within a larger housing unit; through the repetition or grouping of such housing units, similar or dissimilar; through the repetition of such housing groups, similar or dissimilar (theme and its mutation and variation), as I put it in Aix-en-Provence. We must continue the search for the basic principles of a new aesthetic and discover the aesthetic and human meaning of number. We must impart rhythm to repetitive similar and dissimilar form, thereby disclosing the conditions that may lead to the equilibration of the plural, and thus overcome the menace of monotony.

The formal vocabulary with which man has hitherto successfully imparted harmony to the singular and particular cannot help him to equilibrate the plural and the general. Man shudders because he believes that he must forfeit the one in favor of the other; the particular for the general; the individual for the collective; the singular for the plural; rest for movement. But rest can mean fixation—stagnation—and multiplicity does not necessarily imply monotony. The individual (the singular) less circumscribed within him (it) self will again appear in another dimension as soon as the general—the repetitive—is subordinated to the laws of dynamic equilibrium, i.e., harmony in motion.

Having suggested that it is due both to the great area covered and the quantitative

aggression of the forces vast plurality entails which tend to invalidate the configurative articulation of repetitive elements beyond the first stages of multiplication, it is obvious and reasonable to suggest that identity beyond these first stages—real city identity—can only be established by the very quanta which tend to obstruct the sequential process halfway. With this in view, it is clear that large city-forming attributes—other than circulation—must be introduced stage by stage in the whole configurative process to impart localized full-city identity, whilst bold infrastructures must generate a framework within which all configurative stages of multiplication—i.e., not merely the initial ones—become meaningfully comprehensible. Failure to govern mobile quanta through infrastructures will make it impossible for cities to become more than vast disorganized accretions that frustrate the very needs they are meant to provide for.

It is too often claimed that the great metropolis defeats its own ends in principle! This, of course, is the kind of sentimental loose thinking that stands in the way of any solution that proves the opposite.

Urban transmutability

If it were possible to comprehend a city as a complex with a certain finality, or as a determined mechanism geared to a kind of urban existence which is fairly constant in time and space—subject only to either slow gradual change or sudden mutations at very long intervals—it would perhaps also be possible to rely on the extended configurative discipline. But a city is no such thing—no longer at any rate. I am prone to speak instead of a city as an organism, since this suggests quite predictable "natural" change and growth according to fixed inherent impulses and external forces.

The "organic" image of a city is therefore as false and misleading as the mechanical one. Without wanting to be nasty, both sprout from the same sentimental and rational type of mind; a type, moreover, that is invariably addicted to technological advance for its own sake, and all too common among architects and urbanists. A city, however, is a very complex artifact and, like all artifacts, fits no pseudobiological analogy. It is a man-made aggregate subject to continual metamorphosis to which it either manages or fails to respond. Accordingly, it is either transfigured or disfigured. Our experience is founded on the latter, our hopes on the former—that is the plight we are in now. But we know this much, *that transfigurative potential implied enduring and dynamic identity; lack of it: disfigurement, loss of identity, and paralysis.*

A city is only transmutable as a whole if its components are also transmutable. One change can effect, delay, or check another change, but this does not alter the fact that each component is subject to change of some kind. Transmutations seldom coincide in time and degree nor are they effected at the same tempo. Such incongruity is simply the spontaneous outcome of urban life. It is a reality that must be accepted and understood.

A city is chaotic and necessarily so. One can no more rule this truth out than one can rule out the eternally incongruous desires of man. The manifold functions of a city must be adequately organized in the light of all aspects of mobility, not for the sake of subduing the chaotic element they incur, for this is happily as impossible as it is undesirable, but in order to avoid their reciprocal elimination (functional paralysis), mechanical stagnation, and the human distress implied.

Are we such fools as not to realize this? All these nefarious properties do not exude from either order or chaos as such but from the mismanagement of both. Order and chaos form yet another twinphenomenon which, if split into incompatible polarities, turns both halves into a twin-negative. Now architects and urbanists today are addicted

to this splitting mania. Their particular nature seems to make them as wary of chaos as they are willing to bestow order.

One cannot eliminate chaos through order, because they are not alternatives. Sooner or later it will dawn upon the mind that what it mistook for order is not really order, but the very thing that causes the stagnation, paralysis, and distress falsely attributed to chaos.

It will also dawn upon the mind that what such "order" is supposed to dispel—chaos—is quite a different thing from the negative effects brought about in trying to do anything so foolish.

Chaos is as positive as its twinsister order.

It is clear that the time has come to reconsider the entire configurative process in the light of the many aspects mobility embraces in order to discover new spatial, structural, and constructive possibilities for our cities.

Kenzo Tange, referring to his Tokyo Bay plan, says: "The spatial order in cities will doubtless become richer in content as time goes on. It will come to include not only spaces of an order of nature but free, nonordered spaces as well." "We must seek order in freedom and freedom in order." "It is by relating these two extremes that we will create a new spatial organization for contemporary cities."

As fully as the order-freedom reciprocity appeals to me, as little can I cope with order and freedom as extremes which they only are as long as they are negatives (insofar as the chaotic element is here rightly implied in the word *freedom*). Since there must always be some kind of space between the alleged extremes, a distinguishable borderline between ordered and nonordered space is unthinkable. They are not separate categories that can be locally provided for.

The fulfillment of a great desire—the metropolis

A lot has been written about circulation—its mechanical and numerical connotations. It is still too often handled in the abstract, as one of many urban functions. But circulation cannot be fully understood in terms of function—that is why we have hitherto failed to come to terms with it. Transportation is a particular aspect of communication, communication a particular aspect of mobility in general. Now mobility is not merely an aspect of city life, it is of the very essence of human association, whilst cities in principle are meant to provide the framework for human association in its most complex and varied form.

Cities tend to become more magnetic, and consequently larger and larger, as the web of association is intensified and its range extended. I say it this way and not the other way around because it is important to comprehend the expanding city in the light of man's basic desire to communicate, i.e., from a positive human need, and not from statistical, economical, and technological inevitability in an impersonal hence negative sense.

I believe it is because this quantitative attitude still prevails that the project of urban expansion seems terrifying instead of gratifying, and the solutions ubiquitously proposed so functionally inadequate and contrary to the growing communicative need of the citizen.

There is one more question Tange's excellent exposé of the Tokyo plan poses. I should like to deal with it here briefly because it immediately concerns the argument of the present essay. He says:

"The speed and scale of contemporary life call for a new spatial order in cities.

Nevertheless man himself continues to walk in steps of a meter or so and we are still surrounded by the unchanging human scale.

"Furthermore, whereas the life cycle of large-scale constructions is growing longer, the life cycle of our houses and the articles we use in daily activities is gradually growing shorter. This fact results from our ever-increasing reliance upon manufactured goods and from our tendency to take up new things and discard them more and more rapidly. Individuality, freedom, and spontaneity form an ever-strengthening antithesis to the control of technology. Man desires more and more to exercise his own individual choice in matters that concern houses, gardens, streets, and plazas.

"There are then two conflicting extremes—the *major structures* which have a long life cycle and which, while restricting individual choice, determine the system of the age, and the *minor objects* that we use in daily living which have a short life cycle and which permit the expression of free individual choice. The gap between the two is gradually growing deeper. The important task facing us is that of creating an organic link between these two extremes and, by doing so, to create a new spatial order in our cities!"

Some basic objections to this concept, which I underline fully, have been thus formulated by Fumihiko Maki and Masato Ohtaka in an essay on Group Form (St. Louis: Washington University, 1961):

"Tange's megaform concept depends largely on the idea that change will occur less rapidly in some realms than it will in others, and that the designer will be able to ascertain which of the functions he is dealing with fall in the long cycle of change, and which in the shorter. The question is, can the designer successfully base his concept on the idea that, to give an example, transportation methods will change less rapidly than the idea of a desirable residence or retail outlet?

"Sometimes the impact and momentum of technology become so great that a change occurs in the basic skeleton of social and physical structure. It is difficult to predict to which part of a pond a stone will be thrown and which way ripples will spread. If the megaform becomes rapidly obsolete, as well it might, especially in those schemes which do not allow for two kinds of change cycle, it will be a great weight about the neck of urban society.

"The ideal is not a system, on the other hand, in which the physical structure of the city is at the mercy of unpredictable change. The ideal is a kind of master form which can move into ever new states of equilibrium and yet maintain visual consistency and a sense of continuing order in the long run.

"Inherent in the megastructure concept, along with a certain static nature, is the suggestion that many and diverse functions may beneficially be concentrated in one place. A large frame implies some utility in combination and concentration of function. That utility is sometimes only apparent. We frequently confuse the potential that technology offers with a kind of compulsion to 'use it fully.' Technological possibility can be sanguinely useful only when it is a tool of civilized persons. Inhuman use of technological advance is all too frequently our curse. Optimum productivity does not ever depend on mere concentration of activities and workers.

"Paul Goodman says in *Communitas*: 'We could centralize or decentralize, concentrate population or scatter it. . . . If we want to continue the trend away from the country, we can do it; but if we want to combine town and country values in an agri-industrial way of life, we can do that. . . . It is just this relaxing of necessity, this extraordinary flexibility and freedom of choice of our techniques, that is baffling and

frightening to people. . . . Technology is a sacred cow left strictly to (unknown) experts, as if the form of the industrial machine did not profoundly affect every person.' . . .

Technology must not dictate choices to us in our cities. We must learn to select modes of action from among the possibilities technology presents in physical planning. If the megastructure concept presents the problems outlined above, it also has great promise."

Motive, means, and end in confusion

I have nothing against the megaform concept; on the contrary, this essay is a plea for a configurated megaform, i.e., for the city as a single complex megaform in which the conflicting extremes, about which Tange speaks, are not resolved, however, by "creating an organic link," but are simply not accepted as conflicting categories.

Were it not for the fact that Tange seeks order in freedom and freedom in order, what are now but doubts as to some albeit vital implications with regard to motive, means, and end would have become real objections.

I would contend that it is primordially man's nature as a social being to seek immediate intercourse with his fellow men and participate as an individual in the doings of society at large.

This is in fact as much a consequence of consciousness as man's specific ability to evolve the means, technological and economical, with which he manages not merely to survive physically but, beyond that, to frame more effectively all the shades of human intercourse he seeks. As soon as his physical survival is secured—a stage as yet only reached in a small part of the world—what lies beyond survival as such becomes paramount—and, one would imagine, well within reach. This is my point of view:

Once this stage is reached I think one can say, without looking for reservations which can easily be construed, that ultimately man tends to move toward large cities simply because he wants to, and that he does so because it is his nature to gather and communicate in as varied a way as possible. It is not merely because he must, in that impersonal economical factors or systems of production necessitate him to do so.

We cannot solve the problem of the expanding metropolis if we continue to approach it negatively. That the metropolis "explodes" instead of expanding naturally—I am thinking among other things of the suburban disease—is based on an existing negative status quo.

Even if the vicious circle qualities are evident, we must start from the simple positive truth that cities expand because man today is drawn toward them for intrinsically human reasons—because the desire to communicate and participate is a primordial attribute of consciousness. In order to accomplish this end he has developed technological and economical means with which—quite apart from whether or not these succeed or fail—to accomplish the terrific human clustering his desire for complex association demands. That there is an emotional chasm between the way the increased speed and scale this desire causes manifests itself and the desire itself is evident. But this is no reason to disparage either the ultimate human validity of the great metropolis or the increase in speed and scale of contemporary life which has, of course, in many ways unfortunately developed in a way both arbitrary, impersonal, and hence inhuman.

Of this I am convinced, one is certainly putting the cart before the horse when one suggests that man must adapt himself mentally and emotionally in order to accommodate himself to his own artifacts because he fails to build them as a means toward an end

he fundamentally desires.

Technology and economics are servants of man's desire toward achieving kinds of human association beyond those which survival necessitates (in the light of his hobby for making bombs and rockets I cannot help adding: so I would like to think!). If instead they have become the very tyrants that frustrate this great desire, so much for that; this should never be allowed to alter the right relation between motive, means, and end.

Herein lies the danger of labeling the two conflicting extremes *major structures* and *minor objects,* as Tange does, since the minor objects are always the *end,* in that they appertain to daily living, whilst the major structures (must they determine the system of the age?) are the *means* (the servant), in that they are conceived to help the end accord with the desire. It seems strange, therefore, that Tange calls minor what I would call the major end.

As long as architects desire to create a new spatial order for our cities, because they not only desire to bridge the great "gap," but because they think that it is these "major structures which, while restricting individual choice, determine the system of the age," they will not fully succeed, because this concept is founded on false premises—on a technological slant—albeit a different one from that which infected CIAM for so long.

This is also why the whole concept of "open" versus "closed" form, cherished by astute architects today, is, in my opinion, untenable and erroneous. I detect in Tange's intellectual excursions into the realm of social, economical, aesthetic, and historical criticism, with which he attempts to fortify the open-versus-closed-form concept, a continuation of the same overestimation of technology and productive progress for their own sake which also infected the minds of so many architects and urbanists of the former generation. A "closed" concept, to use Tange's word just once!

In view of Japan's incredible technological development and its formidable impact on an enormous impoverished population, Tange's attitude is very understandable. His audacious Tokyo Bay plan could only have been conceived in a country confronted with such terrific plurality. The Smithsons also attribute major importance to the structures that must be invented to identify a city as a city, but they very wisely use the term "infrastructure"! It must be remembered that their Berlin and London circulation schemes came after many years of thinking about association in the sphere of the intimate "minor structures" that concern the spaces, houses, and articles we use in our "daily activities." The danger that the Smithsons will put the cart before the plodding horse is therefore so small that there is still hope for Team X. Their concept, it seems to me, of motive, means, and end is sound, simple, and safe—"open," if I may use that word as well, just once!

To return to the problem of mobility and how it affects the configurative discipline for which this essay makes a plea. A city's effective transmutability depends on whether the various aspects of urban mobility have been structurally recognized.

I mean by the various aspects of mobility everything which appertains to urban movement, growth, and change. This includes so many things that they cannot be listed (as long as they are appreciated!). Yet it is important here to point to a few primary aspects:

- the sensorial and emotional impact of urban environment on the citizen as he moves through it in general—the nature of this impact in light of the different ways and speeds the citizen moves from one place to another and what he experiences en route;
- mutations of use, aspect, and functional potential due to the natural cycles, small and

large—the seasons (including weather), night and day, age-phases of the human being;

- the relation between the nature and tempo of the different phases of human life and the overall nature and tempo of urban life—and the way the latter changes;
- change of dwelling, neighborhood, or city with regard to the individual or a particular group of citizens (the right and the desire for such change is increasing, whereas the possibilities are decreasing!);
- furthermore all mutations in size, quantity, place, kind, form, and function of all urban components—the incongruity as to speed, time, extent, and place of one mutation in relation to others.

(See also *Forum* 7,1959, p. 236, Dubrovnik report on Mobility.)

I am prone to suggest that our cities will not be able to exist in time and space unless all these aspects are supported by the configurative discipline which is being evolved to reestablish and perpetuate their identity for the sake of the purpose cities stand for . . . because it is so blatantly obvious.

And yet, when Willem van Bodegraven read an essay he had written on urbanism and the time factor to the Dutch CIAM group in 1952, the reaction of the older generation was such that it is perhaps best forgotten. "We are faced with the necessity of evolving structure and forms which can develop in time; which can remain a unity and maintain the coherence of the components at all stages of their growth. The absence of this must lead to self-destruction."

This means that the identity of the whole should be latent in the components whilst the identity of the components should remain present in the whole.

It does not imply, however, that these identities need or should remain constant in the face of mutations. On the contrary, it is exactly this potential to change face without losing it which cities must acquire in order to fulfill their purpose in space and time: the provision of places where vast numbers of people can live, benefiting liberally from all the varied forms of human association and activity large cities can best furnish.

A city should embrace a hierarchy of superimposed configurative systems multilaterally conceived (a quantitative not a qualitative hierarchy). The finer grained systems—those which embrace the multiplied dwelling and its extension—should reflect the qualities of ascending repetitive configurative stages as has already been put forward. All systems should be familiarized one with the other in such a way that their combined impact and interaction can be appreciated as a single complex system—polyphonal, multirhythmic, kaleidoscopic, and yet perpetually and everywhere comprehensible. A single homogeneous configuration composed of many subsystems, each covering the same overall area and equally valid, but each with a different grain, scale of movement, and association potential. These systems are to be so configurated that one evolves out of the other—is part of it. The specific meaning of each system must sustain the meaning of the other. Structural qualities must contain textural qualities and vice versa—in terms of consecutive place-experience structure and texture must be ambivalent. For only then can wrong emphasis of the structural and amorphousness of the textural be avoided, i.e., the reciprocal meaning of small and large; many and few; part and whole; unity and diversity; simplicity and complexity be established and right-size guaranteed.

The large structures (infrastructures) must not only be comprehensible in their own right, they must above all—this is the crucial point—assist the overall comprehensibility of the minutely configurated intimate fabric which constitutes the immediate counterform of each and every citizen's everyday life. They must not only be able to absorb

reasonable mutation within themselves but also permit them within the intimate smaller fabric they serve.

Reasonable mutations should be possible without loss of the identity of that which changes; of that which is immediately affected by it, or of the whole; without one reasonable change hindering or invalidating another reasonable change.

Flexibility and false neutrality

Flexibility as such should not be overemphasized or turned into yet another absolute, a new abstract whim. The prevailing tendency to desire great neutrality for the sake of extreme transmutability is as dangerous as the existing urban rigidity from which this tendency springs as a reaction. Significant archetypal structures should have enough scope for multimeaning without having to be continually altered.

We must beware of the glove that fits all hands and therefore becomes no hand.

Identifying devices

In *Forum* 7, 1959, we referred to the need for new "identifying devices" brought forward by Team X at Dubrovnik in 1956. Without these a house will not become a house, a street not a street, a village not a village, and a city not a city. They should be structurally bolder and far more meaningful than those which satisfy architects and urbanists today. They must, above all, be of a higher order of invention, so that the congeniality and human immediacy of the small, intimate configuration can become of a higher order through them.

Make a bunch of places of each house and each city, for a city is a huge house and a house a tiny city. Both must serve the same person in different ways and different persons in the same way.

At a city level many closely related identifying devices will be necessary to establish a rich scale of comprehensibility. Identifying devices can be artifacts—new or historical—or given by nature and more or less intensely exploited. In the past it was often a church, a palace, a great wall, a harbor, a canal, an important street or square—often, too, a river, valley, hill, or seafront. Many of these are still valid beyond their visual impact.

We know this well enough, but I am not so sure if we are sufficiently aware of the fact that it is those identifying devices—call them images—which not only articulate visually but also frame civic association between people, i.e., which still possess direct physical meaning and still bear witness to this day by day, which remain in our memory most persistently. They articulate places for simple occasions in which we are able to participate directly. I need not name them since everybody has found his own—and more than can ever be listed. They make continents your own. Yet although the human validity of such places is recognized again and again, as soon as they are reencountered, the wonderful effect they have is sorrowfully forgotten the moment architects and urbanists grab a pencil. But we cannot continue to exploit old identifying images—those we have inherited—passively with impunity. They cannot possibly survive continual molestation nor can their identity be maintained unconditionally.

The time has come to invent new significant identifying devices that perpetuate in a new way the essential human experiences the old ones provided for so well. At the same time these new ones must provide for equally essential experiences the older ones no longer provide for or never did.

[. . .]

1964

The future members of Archigram—Warren Chalk, **Peter Cook**, Dennis Crompton, David Greene, Ron Herron, Michael Webb—were students in the 1950s when the Independent Group was staging its confrontation between high art and popular culture at the Institute of Contemporary Arts in London. Inspired by the polemical energies of the Smithsons, Reyner Banham's enthusiasm for technology, and Theo Crosby's revitalizing role on the English editorial scene, they began their collaboration casually, unlike the more politicized architectural radicals soon to emerge elsewhere in Europe. Peter Cook later recounted, "In late 1960, in various flats in Hampstead, a loose group of people started to meet: to criticize projects, to concoct letters to the press, to combine to make competition projects, and generally prop one another up against the boredom of working in London architectural offices. . . . The main British magazines did not at that time publish student work, so that *Archigram* was reacting to this as well as the general sterility of the scene. The title came from the notion of a more urgent and simple item than a journal, like a 'telegram' or 'aerogramme,' hence 'archi(tecture)-gram.'"

237–39

240–41, 370–78

Archigram 1 appeared in May 1961. It consisted of a page of kaleidoscopic imagery and words lithographed on cheap paper with a separate foldout. Greene, the poet of the group, wrote, "The poetry in bricks is lost. We want to drag into building some of the poetry of countdown, orbital helmets, discord of mechanical body transportation methods and leg walking." That program roughly defined the iconoclastic and visionary series of urban proposals that the group would realize in the ephemeral medium of the broadsheet, assembled with memorable graphic, fold-out, and pop-up ingenuity in the course of nine issues. If the first two numbers were provocational in a general sense, with *Archigram* 3, devoted to expendability and consumerism, the group presented a more focused manifesto. Living City, the first full-group project, staged at the I.C.A. in 1963, was an effort to express the urban vitality in a "throwaway environment." *Archigram* 4, a space comic issue, zoomed in on "the context of the near future." In the opening editorial, reprinted here, Cook posed the question of "the fast-moving object as part of the total aesthetic." With number 5, of the same year, the focus shifted to megastructures—clusters and molehills—while Cook's Plug-in City of 1964–66 combined with Chalk's Capsule Homes to bring the group's ideas on stacking, servicing, and technical transformability to a point of intensity. After 1965 the aggressive sci-fi monumentality relaxed into more domestic notions of "survival kits" and Fulleresque standard-of-living packages, also inspired by the antiarchitectural stance of Cedric Price. This trend began with Webb's Auto-Environment of 1966 and culminated in the inflatables of Instant City (1968–71). *Archigram* 8 (1968) summed up the group's "preoccupations": metamorphosis, nomad, comfort, hard-soft, emancipation, exchange, response. Seemingly a predictable allegory of mid-1960s psychedelic space-age British counterculture, the effect was nonetheless arresting by virtue of the group's inventiveness in translating its generation's concerns into architectural images.

273–75, 325–34

86–92

27–30

It was also an ultimate riposte to the postwar humanism of the "masters." In the 1967 edition of *Space, Time and Architecture* Sigfried Giedion denounced Archigram's machinism in the name of Le Corbusier, who had just died. The group had also gone too far for the Smithsons (ribbed below for the use of the cut corner in their Economist buildings); the Smithsons responded in 1973 with their book *Without Rhetoric*. But for more radical architects—in Austria, Italy, and France; in Japan, where the plug-in dreams became buildable; and in schools everywhere—Archigram offered a vivid critique of current practice, liberating speculations about urban design in an advanced industrial society.

181–83

459–62, 437–41

456–58, 319–24

From Amazing Archigram *4 (1964). Courtesy of Peter Cook.*

Zoom and "Real" Architecture
Peter Cook (Archigram)

We return to the preoccupation of the first *Archigram*—a search for ways out from the stagnation of the architectural scene, where the continuing malaise is not just with the mediocrity of the object, but, more seriously, with the self-satisfaction of the profession backing up such architecture. The line that "modern architecture has arrived" seems more than ever inappropriate.

Certainly it has never been more possible to produce buildings that are at once well mannered . . . and quite gutless. Great British architecture now has more to do, organically, with the "line-of-least resistance" tradition—from Queen Anne's Mansions to the Hilton through Dolphin Square—than with the New Architecture of the twenties and thirties. Though it would be ridiculous to force a "heroic" phase in the present decade, the cycle has too quickly reached the "tragic."

Mainstream-fanciers can currently report further unashamed use by everybody of the 45° corner, stepped section, 3-D precast panel, and the rest—a cosmetic borrowed from the originals' beauty-box to tart up the latest least-line (tradition) scheme.

It would have been too easy to look over one's shoulder and fill Archigram with three dozen of the respected goodies of the last fifty years (interesting that so many would be pre-1930), and the comment, "What have we lost? What are we missing?" Yet set against such a feeling of loss is the continuance of something that has not yet disappeared into historical perspective—a tradition that is still developing, and is still original to many of the basic gestures of modern architecture. It shares much of its expression with those dim, neurotic, enthusiastic days of the Ring, *Der Sturm,* and the Futurist *Manifesto*—the architectural weirdies of the time feeding the infant modern movement. Our document is the *space-comic;* its reality is in the gesture, design, and a natural styling of hardware new to our decade—the capsule, the rocket, the bathyscope, the Zidpark, the handy-pak.

Is it possible for the space-comic's future to relate once again with buildings-as-built? Can the near-reality of the rocket-object and hovercraft-object, which are virtually ceasing to be cartoons, carry the dynamic (but also noncartoon) building with them into life as it is? Or shall we be riding in these craft amongst an environment made of CLASP? The ridiculousness of such a situation can be compared with the world of Schinkel seen by the Futurists.

There is the same consistency in an "Adventure-Comic" city of the 1962–63 period and in Bruno Taut's projects for Alpine Architecture of 1917, the same force of prediction and style. The cross-fertilization can come from the "design" world, but only—and this is the point—when the idea is big enough—so we frequently find conditioned environments of domes over cities and representations of tensegrity nets in cartoons. The point made in *Edilizia Moderna* 80, where the movement-tube emerged as an essential aspect of the more sophisticated skyscraper city (as opposed to a city which is a collection of skyscrapers—and relative to only one level of horizontal circulation), has long been realized by the comics' skyscraper cities.

One of the greatest weaknesses of our immediate urban architecture is the inability to contain the fast-moving object as part of the total aesthetic—but the comic imagery has always been strongest here. The representation of movement-objects and movement-containers is consistent with the rest, and not only because "speed"

[Archigram 4, cover. By Warren Chalk.]

[Archigram 4, page 1. Cartoon strip assembled by Warren Chalk.]

is the main gesture.

The positive quality that the rocket (both actual and represented), the Futurist scribble, and the space-city share is their ultimateness—which has most significance as a counterweight to so-called "real" architecture. We connect this material with serious projects for making living space, entertainment space—and the city, in the context of the near future.

Cedric Price's work has particular relevance to this "connection" with reality. Price is almost the only architect in England actually building tensegrity structures, pop-up domes, and disposable buildings—and therefore coming to grips with the near future. The towers (page 26) are also relevant to this situation in the never-land between gesture and architectural laboratory work.

It is significant that with this material there exists an inspirational bridge, stretching both forty years into the past and perhaps forty years into the future, and perhaps the answer lies neither in heroics nor tragedy, but in a reemergence of the courage of convictions in architecture.

1965

Historian, critic, and sharp-witted essayist **Reyner Banham** trained as an aeronautical engineer during the Second World War before coming under the tutelage of art historian Nikolaus Pevsner at the Courtauld Institute in London in the late 1940s. There he completed a dissertation that would be rewritten and published in 1960 as *Theory and Design in the First Machine Age,* revising the *sachlich* narrative of modern architecture rendered by Pevsner in his classic *Pioneers of the Modern Movement* of 1936. In the postwar period Pevsner would himself retrench from the Gropius line of his earlier book, rediscovering the
114–19 perennial virtues of English empiricism and Townscape picturesque, which he promoted as an editor of *Architectural Review,* and later acknowledging the importance of "antirationalist" currents, especially Art Nouveau and German expressionism. Meanwhile, Banham, who began contributing regularly to *Architectural Review* in 1952 and would become assistant editor in 1959, was increasingly concerned with the relationship between architecture and
341–46 technology, in particular the symbolic or aesthetic interpretation of technology by modern architects. This would lead him to an "other" genealogy of modernism
300–7 giving primacy to Italian futurism—*une architecture autre,* as he put it in 1955.

Banham was also involved during these years in the activities of the
237–39 Independent Group and the inception of the New Brutalism, a tendency
240–41 propounded by Peter and Alison Smithson which Banham did much to explicate and promote through an article in *Architectural Review* in 1955 (reworked as a book in 1966). Banham's exuberant endorsement of popular culture, industrial design, the American way of life, and new technologies, and his dislike for traditionalism and aestheticism of any kind, subsequently led him away from the Smithsons—whose work, he felt, took a regressive and formalistic turn with their "archaeological" Patio and Pavilion installation at the *This Is Tomorrow* exhibition
86–92 of 1956—and to embrace the work of Buckminster Fuller as a radical populist response to social needs and prophetic embodiment of a Marinettian future.

The following essay, accompanied on its original publication by a vivid set of drawings by François Dallegret and published the same year as the Plug-in
365–69 City of Archigram (a group with whom Banham preserved strongly paternalistic relations), reflects the Banham polemic at its most visionary and at the same time most satirical. It proposes an architecture of ultimate antimonumentality: the house as a minimal membrane of enclosure, dematerialized of all but its essential mechanical services. Inspired by Fuller's Dymaxion with its central service core and later geodesic designs where all space-defining elements were coterminous with the structure's skin, Banham's "unhouse" was "an extension of the Jeffersonian dream beyond the agrarian sentimentality of Frank Lloyd Wright's Usonian Broadacre vision . . .," as he put it, "power-point homesteading in a paradise garden of appliances." Banham was to return to this "gas-powered pastorale" and the advantages of the portable life-style in "The Great Gizmo," published in *Industrial Design* in September 1965.

After a stay in Chicago in 1964–66, Banham eventually moved permanently to the United States, teaching at New York State University in Buffalo and then the University of California at Santa Cruz. His prolific writings and books—including *The Architecture of the Well-Tempered Environment* (1969), *Los Angeles: The Architecture of Four Ecologies* (1971), and *A Concrete Atlantis* (1986)—reflect his passionate commitment to advancing a pragmatic technology for the controlled environment.

From Art in America, *April 1965, pp. 109–18. Republished with commentary in Charles Jencks and George Baird, eds.,* Meaning in Architecture *(New York: George Braziller, 1969), pp. 109–18. Courtesy of Mary Banham.*

A Home Is Not a House

Reyner Banham

When your house contains such a complex of piping, flues, ducts, wires, lights, inlets, outlets, ovens, sinks, refuse disposers, hi-fi reverberators, antennae, conduits, freezers, heaters—when it contains so many services that the hardware could stand up by itself without any assistance from the house, why have a house to hold it up? When the cost of all this tackle is half of the total outlay (or more, as it often is) what is the house doing except concealing your mechanical pudenda from the stares of folks on the sidewalk? Once or twice recently there have been buildings where the public was genuinely confused about what was mechanical services, what was structure—many visitors to Philadelphia take quite a time to work out that the floors of Louis Kahn's laboratory towers are not supported by the flanking brick duct boxes, and when they have worked it out, they are inclined to wonder if it was worth all the trouble of giving them an independent supporting structure.

No doubt about it, a great deal of the attention captured by those labs derives from Kahn's attempt to put the drama of mechanical services on show—and if, in the end, it fails to do that convincingly, the psychological importance of the gesture remains, at least in the eyes of his fellow architects. Services are a topic on which architectural practice has alternated capriciously between the brazen and the coy—there was the grand old let-it-dangle period, when every ceiling was a mess of gaily painted entrails, as in the council chambers of the U.N. building, and there have been fits of pudicity when even the most innocent anatomical details have been hurriedly veiled with a suspended ceiling.

Basically, there are two reasons for all this blowing hot and cold (if you will excuse the air conditioning industry's oldest-working pun). The first is that mechanical services are too new to have been absorbed into the proverbial wisdom of the profession; none of the great slogans—form follows function, *accusez la structure*, firmness commodity and delight, truth to materials, *wenig ist mehr*—is much use in coping with the mechanical invasion. The nearest thing, in a significantly negative way, is Le Corbusier's *pour Ledoux, c'était facile—pas de tubes*, which seems to be gaining proverbial-type currency as the expression of profound nostalgia for the golden age before piping set in.

The second reason is that the mechanical invasion is a fact, and architects—especially American architects—sense that it is a cultural threat to their position in the world. American architects are certainly right to feel this, because their professional specialty, the art of creating monumental spaces, has never been securely established on this continent. It remains a transplant from an older culture and architects in America are constantly harking back to that culture. The generation of Stanford White and Louis Sullivan were prone to behave like *émigrés* from France, Frank Lloyd Wright was apt to take cover behind sentimental Teutonicisms like *lieber Meister,* the big boys of the thirties and forties came from Aachen and Berlin anyhow, the pacemakers of the fifties and sixties are men of international culture like Charles Eames and Philip Johnson, and so too, in many ways, are the coming men of today, like Myron Goldsmith.

Left to their own devices, Americans do not monumentalize or make architecture. From the Cape Cod cottage through the balloon frame to the perfection of permanently pleated aluminum siding with embossed wood-graining, they have tended to build a brick chimney and lean a collection of shacks against it. When Groff Conklin wrote (in "The Weather-Conditioned House") that "a house is nothing but a hollow shell . . . a shell

is all a house or any structure in which human beings live and work really is. And most shells in nature are extraordinarily inefficient barriers to cold and heat . . .," he was expressing an extremely American view, backed by a long-established grass-roots tradition.

And since that tradition agrees with him that the American hollow shell is such an inefficient heat barrier, Americans have always been prepared to pump more heat, light, and power into their shelters than have other peoples. America's monumental space is, I suppose, the great outdoors—the porch, the terrace, Whitman's rail-traced plains, Kerouac's infinite road, and now, the Great Up There. Even within the house, Americans rapidly learned to dispense with the partitions that Europeans need to keep space architectural and within bounds, and long before Wright began blundering through the walls that subdivided polite architecture into living room, games room, card room, gun room, etc., humbler Americans had been slipping into a way of life adapted to informally planned interiors that were, effectively, large single spaces.

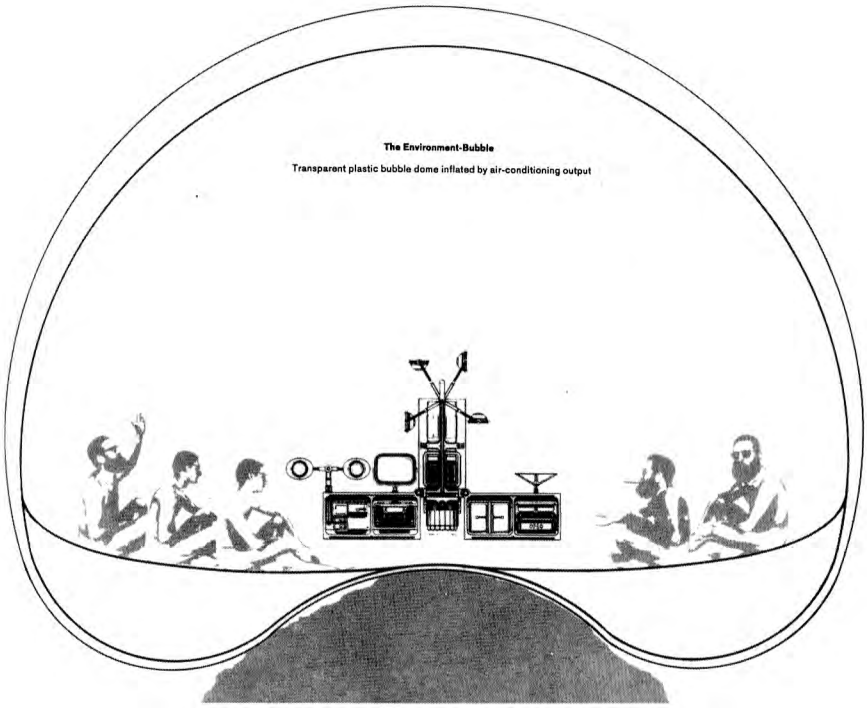
Now, large single volumes wrapped in flimsy shells have to be lighted and heated in a manner quite different and more generous than the cubicular interiors of the European tradition around which the concept of domestic architecture first crystallized. Right from the start, from the Franklin stove and the kerosene lamp, the American interior has had to be better serviced if it was to support a civilized culture, and this is one of the reasons that the U.S. has been the forcing ground of mechanical services in buildings —so if services are to be felt anywhere as a threat to architecture, it should be in America.

"The plumber is the quartermaster of American culture," wrote Adolf Loos, father of all European platitudes about the superiority of U.S. plumbing. He knew what he was talking about; his brief visit to the States in the nineties convinced him that the outstanding virtues of the American way of life were its informality (no need to wear a top hat to call on local officials) and its cleanliness—which was bound to be noticed by a Viennese with as highly developed a set of Freudian compulsions as he had. That obsession with clean (which can become one of the higher absurdities of America's lysol-breathing Kleenex-culture) was another psychological motive that drove the nation toward mechanical services. The early justification of air-conditioning was not just that people had to breathe: Konrad Meier ("Reflections on Heating and Ventilating," 1904) wrote fastidiously of " . . . excessive amounts of water vapour, sickly odours from respiratory organs, unclean teeth, perspiration, untidy clothing, the presence of microbes due to various conditions, stuffy air from dusty carpets and draperies . . . cause greater discomfort and greater ill health."

(Have a wash, and come back for the next paragraph.)

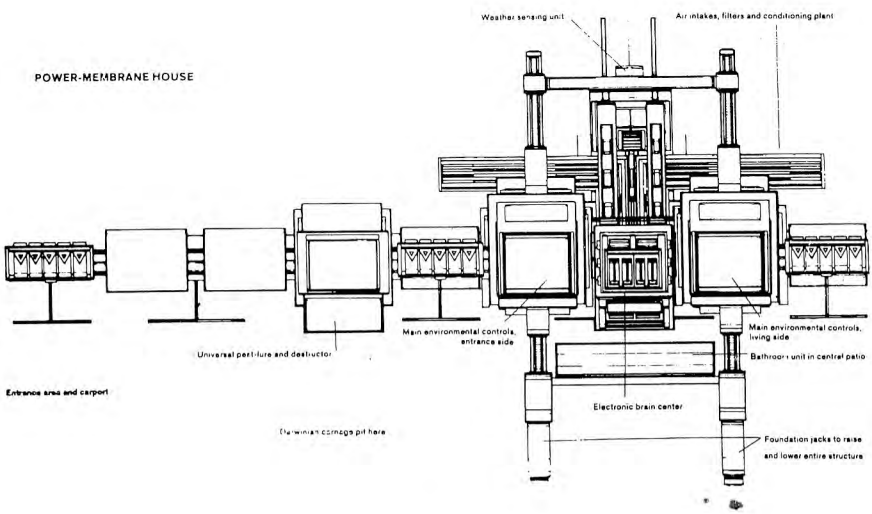
Most pioneer air-conditioning men seem to have been nose-obsessed in this way; best friends could just about force themselves to tell America of her national B.O.—then, compulsive salesmen to a man, promptly prescribed their own patent improved panacea for ventilating the hell out of her. Somewhere among these clustering concepts—cleanliness, the lightweight shell, the mechanical services, the informality and indifference to monumental architectural values, the passion for the outdoors—there always seemed to me to lurk some elusive master concept that would never quite come into focus. It finally became clear and legible to me in June 1964, in the most highly appropriate and symptomatic circumstances.

I was standing up to my chest hair in water, making home movies (I get that NASA kick from taking expensive hardware into hostile environments) at the campus beach



The Environment-Bubble

Transparent plastic bubble dome inflated by air-conditioning output



at Southern Illinois. This beach combines the outdoor and the clean in a highly American manner—scenicly it is the old swimmin' hole of Huckleberry Finn tradition, but it is properly policed (by sophomore lifeguards sitting on Eames chairs on poles in the water) and it's *chlorinated* too. From where I stood, I could see not only immensely elaborate family barbecues and picnics in progress on the sterilized sand, but also, through and above the trees, the basketry interlaces of one of Buckminster Fuller's experimental domes. And it hit me then, that if dirty old Nature could be kept under the proper degree of control (sex left in, streptococci taken out) by other means, the United States would be happy to dispense with architecture and buildings altogether.

Bucky Fuller, of course, is very big on this proposition: his famous nonrhetorical question, "Madam, do you know what your house weighs?" articulates a subversive suspicion of the monumental. This suspicion is inarticulately shared by the untold thousands of Americans who have already shed the deadweight of domestic architecture and live in mobile homes which, though they may never actually be moved, still deliver rather better performance as shelter than do ground-anchored structures costing at least three times as much and weighing ten times more. If someone could devise a package that would effectively disconnect the mobile home from the dangling wires of the town electricity supply, the bottled gas containers insecurely perched on a packing case, and the semi-unspeakable sanitary arrangements that stem from not being connected to the main sewer—then we should really see some changes. It may not be so far away either; defense cutbacks may send aerospace spin-off spinning in some new directions quite soon, and that kind of miniaturization talent applied to a genuinely self-contained and regenerative standard-of-living package that could be towed behind a trailer home or clipped to it could produce a sort of U-haul unit that might be picked up or dropped off at depots across the face of the nation. Avis might still become the first in U-Tility, even if they have to go on being a trying second in car hire.

Out of this might come a domestic revolution beside which modern architecture would look like Kiddibrix, because you might be able to dispense with the trailer home as well. A standard-of-living package (the phrase and the concept are both Bucky Fuller's) that really worked might, like so many sophisticated inventions, return Man nearer to a natural state in spite of his complex culture (much as the supersession of the Morse telegraph by the Bell Telephone restored his power of speech nationwide). Man started with two basic ways of controlling environment: one by avoiding the issue and hiding under a rock, tree, tent, or roof (this led ultimately to architecture as we know it) and the other by actually interfering with the local meteorology, usually by means of a campfire, which, in a more polished form, might lead to the kind of situation now under discussion. Unlike the living space trapped with our forebears under a rock or roof, the space around a campfire has many unique qualities which architecture cannot hope to equal, above all, its freedom and variability.

The direction and strength of the wind will decide the main shape and dimensions of that space, stretching the area of tolerable warmth into a long oval, but the output of light will now be affected by the wind, and the area of tolerable illumination will be a circle overlapping the oval of warmth. There will thus be a variety of environmental choices balancing light against warmth according to need and interest. If you want to do close work, like shrinking a human head, you sit in one place, but if you want to sleep you curl up somewhere different; the floating knucklebones game would come to rest somewhere quite different from the environment that suited the meeting of the initiation rites steering committee . . . and all this would be jim dandy if campfires were not so

perishing inefficient, unreliable, smoky, and the rest of it.

But a properly set-up standard-of-living package, breathing out warm air along the ground (instead of sucking in cold along the ground like a campfire), radiating soft light and Dionne Warwick in heartwarming stereo, with well-aged protein turning in an infrared glow in the rotisserie, and the icemaker discreetly coughing cubes into glasses on the swing-out bar—this could do something for a woodland glade or creekside rock that *Playboy* could never do for its penthouse. But how are you going to manhandle this hunk of technology down to the creek? It doesn't have to be that massive; aerospace needs, for instance, have done wild things to solid-state technology, producing even tiny refrigerating transistors. They don't as yet mop up any great quantity of heat, but what are you going to do in this glade anyhow; put a whole steer in deep freeze? Nor do you have to manhandle it—it could ride on a cushion of air (its own air-conditioning output, for instance) like a hovercraft or domestic vacuum cleaner.

All this will eat up quite a lot of power, transistors notwithstanding. But one should remember that few Americans are ever far from a source of between 100 and 400 horsepower—the automobile. Beefed-up car batteries and a self-reeling cable drum could probably get this package breathing warm bourbon fumes o'er Eden long before microwave power transmission or miniaturized atomic power plants come in. The car is already one of the strongest arms in America's environmental weaponry, and an essential component in one nonarchitectural antibuilding that is already familiar to most of the nation—the drive-in movie house. Only, the word *house* is a manifest misnomer—just a flat piece of ground where the operating company provides visual images and piped sound, and the rest of the situation comes on wheels. You bring your own seat, heat, and shelter as part of the car. You also bring Coke, cookies, Kleenex, Chesterfields, spare clothes, shoes, the Pill, and god-wot else they don't provide at Radio City.

The car, in short, is already doing quite a lot of the standard-of-living package's job—the smoochy couple dancing to the music of the radio in their parked convertible have created a ballroom in the wilderness (dance floor by courtesy of the Highway Dept., of course) and all this is paradisal till it starts to rain. Even then, you're not licked—it takes very little boosting, and the dome itself, folded into a parachute pack, might be part of the package. From within your thirty-foot hemisphere of warm dry *Lebensraum* you could have spectacular ringside views of the wind felling trees, snow swirling through the glade, the forest fire coming over the hill, or Constance Chatterley running swiftly to you know who through the downpour.

But . . . surely, this is not a home, you can't bring up a family in a polythene bag? This can never replace the time-honored ranch-style trilevel with four small boys and a private dust bowl. If the countless Americans who are successfully raising nice children in trailers will excuse me for a moment, I have a few suggestions to make to the even more countless Americans who are so insecure that they have to hide inside fake monuments of Permastone and instant roofing. There are, admittedly, very sound day-to-day advantages to having warm broadloom on a firm floor underfoot, rather than pine needles and poison ivy. America's pioneer house builders recognized this by commonly building their brick chimneys on a brick floor slab. A transparent airdome could be anchored to such a slab just as easily as could a balloon frame, and the standard-of-living package could hover busily in a sort of glorified barbecue pit in the middle of the slab. But an airdome is not the sort of thing that the kids, or a distracted Pumpkin Eater, could run in and out of when the fit took them—believe me, fighting your way out of an airdome can be worse than trying to get out of a collapsed rain-soaked

tent if you make the wrong first move.

But the relationship of the services kit to the floor slab could be rearranged to get over this difficulty; all the standard-of-living tackle (or most of it) could be redeployed on the upper side of a sheltering membrane floating above the floor, radiating heat, light, and whatnot downward and leaving the whole perimeter wide open for random egress—and equally casual ingress, too, I guess. That crazy modern movement dream of the interpenetration of indoors and outdoors could become real at last by abolishing the doors. Technically, of course, it would be just about possible to make the power membrane literally float, hovercraft style. Anyone who has had to stand in the ground-effect of a helicopter will know that this solution has little to recommend it apart from the instant disposal of waste paper. The noise, power consumption, and physical discomfort would be really something wild. But if the power membrane could be carried on a column or two, here and there, or even on a brick-built bathroom unit, then we are almost in sight of what might be technically possible before the Great Society is much older.

The basic proposition is simply that the power membrane should blow down a curtain of warmed/cooled/conditioned air around the perimeter of the windward side of the un-house, and leave the surrounding weather to waft it through the living space, whose relationship in plan to the membrane above need not be a one-to-one relationship. The membrane would probably have to go beyond the limits of the floor slab, anyhow, in order to prevent rain blow-in, though the air curtain will be active on precisely the side on which the rain is blowing and, being conditioned, will tend to mop up the moisture as it falls. The distribution of the air curtain will be governed by various electronic light and weather sensors, and by that radical new invention, the weathervane. For really foul weather automatic storm shutters would be required, but in all but the most wildly inconstant climates, it should be possible to design the conditioning kit to deal with most of the weather most of the time, without the power consumption becoming ridiculously greater than for an ordinary inefficient monumental type house.

Obviously, it would still be appreciably greater, but this whole argument hinges on the observation that it is the American Way to spend money on services and upkeep rather than on permanent structure as do the peasant cultures of the Old World. In any case, we don't know where we shall be with things like solar power in the next decade, and to anyone who wants to entertain an almost-possible version of air-conditioning for absolutely free, let me recommend "Shortstack" (another smart trick with a polythene tube) in the December 1964 issue of *Analog*. In fact, quite a number of the obvious common-sense objections to the un-house may prove to be self-evaporating: for instance, noise may be no problem because there would be no surrounding wall to reflect it back into the living space, and, in any case, the constant whisper of the air-curtain would provide a fair threshold of loudness that sounds would have to beat before they began to be comprehensible and therefore disturbing. Bugs? Wild life? In summer they should be no worse than with the doors and windows of an ordinary house open; in winter all right-thinking creatures either migrate or hibernate; but, in any case, why not encourage the normal process of Darwinian competition to tidy up the situation for you? All that is needed is to trigger the process by means of a general purpose lure; this would radiate mating calls and sexy scents and thus attract all sorts of mutually incompatible predators and prey into a compact pool of unspeakable carnage. A closed-circuit television camera could relay the state of play to a screen inside the

dwelling and provide a twenty-four-hour program that would make the ratings for *Bonanza* look like chicken feed.

And privacy? This seems to be such a nominal concept in American life as factually lived that it is difficult to believe that anyone is seriously worried. The answer, under the suburban conditions that this whole argument implies, is the same as for the glass houses architects were designing so busily a decade ago—more sophisticated landscaping. This, after all, is the homeland of the bulldozer and the transplantation of grown trees—why let the Parks Commissioner have all the fun?

As was said above, this argument implies suburbia which, for better or worse, is where America wants to live. It has nothing to say about the city, which, like architecture, is an insecure foreign growth on the continent. What is under discussion here is an extension of the Jeffersonian dream beyond the agrarian sentimentality of Frank Lloyd Wright's Usonian Broadacre version—the dream of the good life in the clean countryside, power-point homesteading in a paradise garden of appliances. This dream of the unhouse may sound very antiarchitectural but it is so only in degree, and architecture deprived of its European roots but trying to strike new ones in an alien soil has come close to the anti-house once or twice already. Wright was not joking when he talked of the "destruction of the box," even though the spatial promise of the phrase is rarely realized to the full in the all-too-solid fact. Grass-roots architects of the Plains like Bruce Goff and Herb Greene have produced houses whose supposed monumental form is clearly of little consequence to the functional business of living in and around them.

But it is in one building that seems at first sight nothing but monumental form that the threat or promise of the unhouse has been most clearly demonstrated—the Johnson House at New Canaan. So much has been misleadingly said (by Philip Johnson himself, as well as others) to prove this a work of architecture in the European tradition, that its many intensely American aspects are usually missed. Yet when you have dug through all the erudition about Ledoux and Malevich and Palladio and stuff that has been published, one very suggestive source or prototype remains less easily explained away—the admitted persistence in Johnson's mind of the visual image of a burned-out New England township, the insubstantial shells of the houses consumed by the fire, leaving the brick floor slabs and standing chimneys. The New Canaan glass house consists essentially of just these two elements, a heated brick floor slab, and a standing unit which is a chimney/fireplace on one side and a bathroom on the other.

Around this has been draped precisely the kind of insubstantial shell that Conklin was discussing, only even less substantial than that. The roof, certainly, is solid, but psychologically it is dominated by the absence of visual enclosure all around. As many pilgrims on this site have noticed, the house does not stop at the glass, and the terrace, and even the trees beyond, are visually part of the living space in winter, physically and operationally so in summer when the four doors are open. The "house" is little more than a service core set in infinite space, or alternatively, a detached porch looking out in all directions at the Great Out There. In summer, indeed, the glass would be a bit of a nonsense if the trees did not shade it, and in the recent scorching fall, the sun reaching in through the bare trees created such a greenhouse effect that parts of the interior were acutely uncomfortable—the house would have been better off without its glass walls.

When Philip Johnson says that the place is not a controlled environment, however, it is not these aspects of undisciplined glazing he has in mind, but that "when it gets cold I have to move toward the fire, and when it gets too hot I just move away." In fact, he is simply exploiting the campfire phenomenon (he is also pretending that the floor

heating does not make the whole area habitable, which it does) and in any case, what does he mean by controlled environment? It is not the same thing as a uniform environment, it is simply an environment suited to what you are going to do next, and whether you guild a stone monument, move away from the fire, or turn on the air conditioning, it is the same basic human gesture you are making.

Only, the monument is such a ponderous solution that it astounds me that Americans are still prepared to employ it, except out of some profound sense of insecurity, a persistent inability to rid themselves of those habits of mind they left Europe to escape. In the open-fronted society, with its social and personal mobility, its interchangeability of components and personnel, its gadgetry and almost universal expendability, the persistence of architecture-as-monumental-space must appear as evidence of the sentimentality of the tough.

Nonstraightforward Architecture: A Gentle Manifesto

Robert Venturi

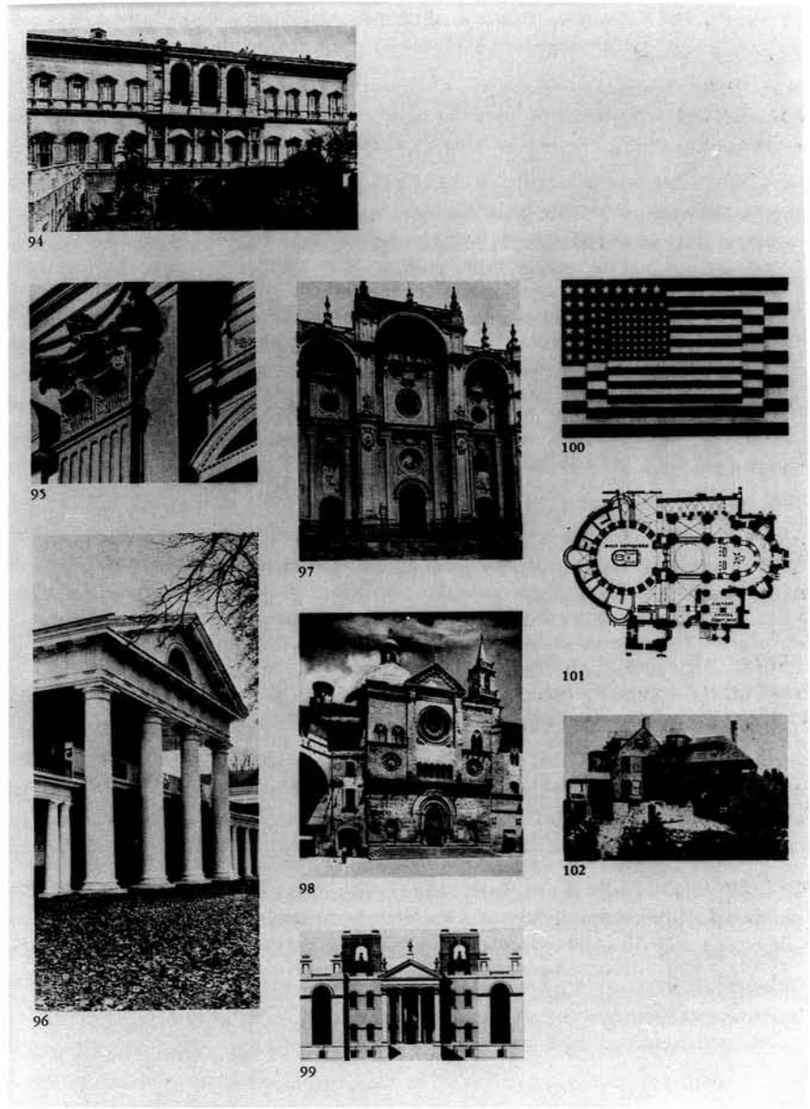
I like complexity and contradiction in architecture. I do not like the incoherence or arbitrariness of incompetent architecture nor the precious intricacies of picturesqueness or expressionism. Instead, I speak of a complex and contradictory architecture based on the richness and ambiguity of modern experience, including that experience which is inherent in art. Everywhere, except in architecture, complexity and contradiction have been acknowledged, from Gödel's proof of ultimate inconsistency in mathematics to T. S. Eliot's analysis of "difficult" poetry and Joseph Albers's definition of the paradoxical quality of painting.

But architecture is necessarily complex and contradictory in its very inclusion of the traditional Vitruvian elements of commodity, firmness, and delight. And today the wants of program, structure, mechanical equipment, and expression, even in single buildings in simple contexts, are diverse and conflicting in ways previously unimaginable. The increasing dimension and scale of architecture in urban and regional planning add to the difficulties. I welcome the problems and exploit the uncertainties. By embracing contradiction as well as complexity, I aim for vitality as well as validity.

Architects can no longer afford to be intimidated by the puritanically moral language of orthodox modern architecture. I like elements which are hybrid rather than "pure," compromising rather than "clean," distorted rather than "straightforward," ambiguous rather than "articulated," perverse as well as impersonal, boring as well as "interesting," conventional rather than "designed," accommodating rather than excluding, redundant rather than simple, vestigial as well as innovating, inconsistent and equivocal rather than direct and clear. I am for messy vitality over obvious unity. I include the non sequitur and proclaim the duality.

I am for richness of meaning rather than clarity of meaning; for the implicit function as well as the explicit function. I prefer "both-and" to "either-or," black and white, and sometimes gray, to black or white. A valid architecture evokes many levels of meaning and combinations of focus: its space and its elements become readable and workable in several ways at once.

But an architecture of complexity and contradiction has a special obligation toward the whole: its truth must be in its totality or its implications of totality. It must embody the difficult unity of inclusion rather than the easy unity of exclusion. More is not less.



[Complexity and Contradiction in Architecture *(1966), p. 63.]*

The Oblique Function
Paul Virilio

If physical nature is characterized by periodicity, the historical world is defined by polarity.

Moreover different types of human groupings have been of major importance in the successive modes of urbanization and thus in the origin of architectural forms.

This process of polarization (whose development need not be complicated here by more specific analysis) has, up to this point, accommodated the addition of individual dwellings in the town, then the addition of dwelling units in the apartment block, this then multiplied in all the apartment blocks of the city—each of these successive entities undergoing a change in volume, followed by universalization.

But these different modifications have above all resulted from an element that for a long time has wrongly been considered the effect of the others: orientation in space.

If the village was characterized by horizontality—a conquest of the soil broken only by the vertical aspiration of the church or chateau—the city has been but a succession of verticalities aimed at social conquest, New York being a culmination of this spatial direction.

If all the attempts to arrive at a new type of urban entity have failed, the garden city of the nineteenth century as well as the satellite city, it is because those who have been responsible for them have disregarded the predominance of an original axis of elevation as motive force for the other components of the whole.

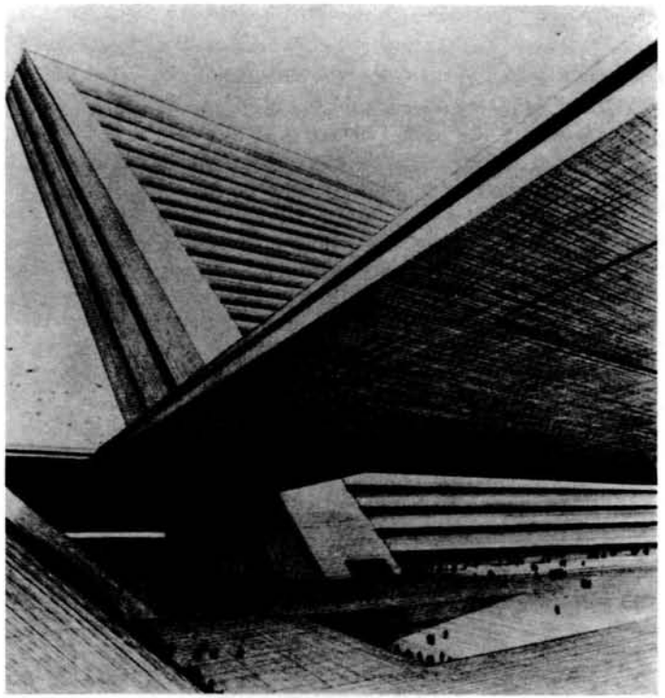
They have been fascinated by the additive aspect of human groupings, which is conditioned by the barbarism of industrial civilization in the process of coming into being.

Thus an urbanism of subjugation has succeeded an urbanism of reaction.

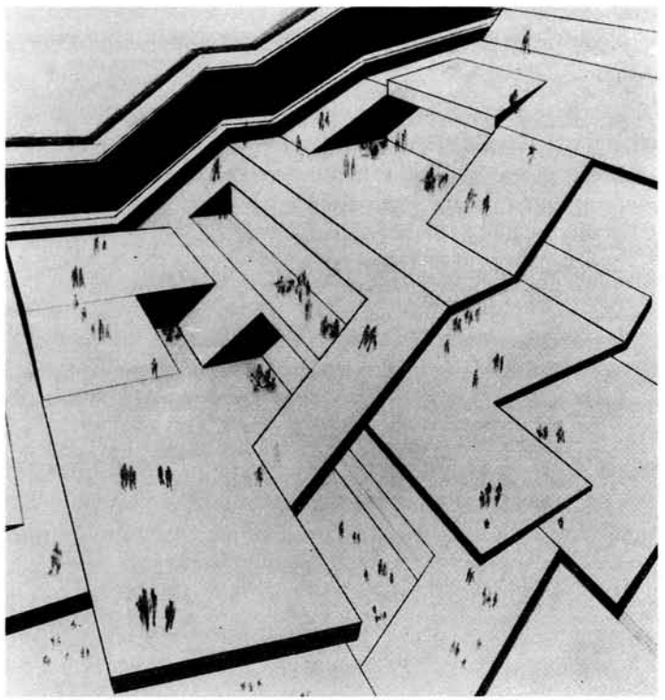
Important as are elements of number and type, it is now proven that they are powerless to realize a new mode of urbanization by themselves.

And we are now confronted by the overriding necessity to accept as a historical fact the end of the vertical as axis of elevation, the end of the horizontal as permanent plan, in order to defer to the oblique axis and the inclined plan, which realize all the necessary conditions for the creation of a new urban order and permit as well a total reinvention of the architectural vocabulary.

This tipping of the plane must be understood for what it is: the third spatial possibility of architecture.



Above: Interior detail. Below: Habitat on inclined plane.



1967

"Eiffel saw his tower in the form of a serious object, rational, useful; men return it to him in the form of a great baroque dream which quite naturally touches on the borders of the irrational . . . architecture is always dream and function, expression of a utopia and instrument of a convenience." **Roland Barthes**'s essay of 1964, "The Eiffel Tower," was an object lesson for architects in reading urban form. In an application of post-Saussurean linguistics to the city, Barthes interpreted the great modern monument of Paris as the iconic center of a reciprocal optical system, at once receptacle of all gazes in the city and universal point of view. As such, it functioned as a signifier free of any fixed referent, a pure and empty sign, "ineluctable because it *means everything.*"

It was the tower's very functionlessness that made it so powerful as a symbol, in Barthes's view, an insight he would later transpose to an interpretation of Japanese culture as an "empire of signs," indecipherable (to the Western eye), and therefore triggering a similar exorbitance of metaphor. Tokyo, for Barthes, occupied by the lacuna of the royal palace, was a case like the Eiffel Tower of an empty center—an absent presence, seductively waiting to be filled.

402–7

Barthes's theory of the "infinitely metaphorical nature of urban discourse," a function of the city's complex multiplicity and therefore inherent resistance to fixed meanings, made the city a privileged semiological context, "a poem," as he puts it in the essay that follows. But the "language of the city" went beyond a mere analogy to speech or writing, Barthes argued. In the broader sense of semiology as a general discourse concerning human signification, the city stood as a concrete inscription of the collective unconscious in space, a social structure of signs and relationships susceptible to precise linguistic analysis.

With functionalism's displacement by the early 1960s, the intense interest in semiology on the part of architects—stimulated by the writings of Barthes, Umberto Eco in Italy, Noam Chomsky in America, and others—represented a renewed search for a codifiable system of architectural meaning. It also accorded with a general intellectual shift whereby signification had come to be seen as conventional rather than natural. The efforts to interpret architecture as a linguistic structure led in various directions, running the gamut from perceptual and semantic studies like those of Kevin Lynch on the "readability" of urban form (closer to communications theory than semiology) and Christian Norberg-Schulz's *Intentions in Architecture* (1965); to more design-oriented approaches concerned with typology, morphology, and generative structures; to the Venturis' quest for the popular culture forms of an *architecture parlante;* to directly Barthesian readings like the one by the Argentine architects Mario Gandelsonas and Diana Agrest theorizing architecture as a field of knowledge production.

379–88, 399–401
389–91, 446–48

Yet Barthes himself had already made the move beyond structuralism in his textual reading of the city. Like Jacques Derrida, his discovery of the empty center and the absence of fixed signification led him to a poststructuralist celebration of the free play of the signifier and its endless deferrals of meaning. The city, in its role as quintessential site of social interchange, of encounters with the other, became suffused with an "erotic dimension." For the Barthesian interpreter—no more a social scientist but a *flâneur,* an "avant-garde reader"—the city was an experience much like that which Barthes was later to describe in *The Pleasure of the Text* (1973) as a "text of bliss."

From a colloquium at the University of Naples Institute of Architectural History in 1967. Originally published in Op. cit. *10 (1967) in Italian. First published in French in* L'Architecture d'Aujourd'hui *153 (December 1970). Published in English in Roland Barthes,* The Semiotic Challenge, *trans. Richard Howard (New York: Hill and Wang, 1988), pp. 191–201. Courtesy of Hill and Wang.*

Semiology and Urbanism
Roland Barthes

The subject of this discussion concerns a certain number of the problems of urban semiology.

But I must add that anyone who wants to sketch a semiotics of the city must be at once a semiologist (a specialist in signs), a geographer, a historian, an urbanist, an architect, and probably a psychoanalyst. Since it is obvious that this is not my case—as a matter of fact, I am none of all this except, barely, a semiologist—the reflections I shall present to you are those of an amateur, in the etymological sense of the word: an amateur of signs, one who love signs, an amateur of cities, one who loves the city. For I love both the city and signs. And this double love (which is probably, as a matter of fact, only one love) impels me to believe, perhaps with a certain presumption, in the possibility of a semiotics of the city. On what conditions or rather with what precautions and what preliminaries will an urban semiotics be possible?

This is the theme of the reflections I shall present. I should like first of all to remind you of a very familiar thing which will serve as a point of departure: human space in general (and not only urban space) has always been a signifying space. Scientific geography and especially modern cartography can be considered as a kind of obliteration, a censorship objectivity has imposed upon signification (an objectivity which is a form like any other of the image-repertoire). And, before speaking of the city, I should like to recall several phenomena of the cultural history of the West, more specifically of Greek antiquity: the human habitat, the "oekoumène," as we can glimpse it through the first maps of the Greek geographers: Anaximander, Hecataeus, or through the mental cartography of a man like Herodotus, constitutes a veritable discourse, with its symmetries, its oppositions of sites, with its syntax and its paradigms. A map of the world by Herodotus, graphically realized, is constructed like a language, like a sentence, like a poem, on oppositions: hot countries and cold countries; then on the opposition between men on the one hand, and monsters and chimeras on the other, etc.

If we turn from geographical space to urban space, strictly speaking, I shall remind you that the notion of *Isonomy,* created for sixth-century Athens by a man like Cleisthenes, is a truly structural conception by which the center alone is privileged, since all the citizens have relations with it which are at the same time symmetrical and reversible.[1] At this period, the conception of the city was exclusively a signifying one, for the utilitarian conception of an urban distribution based on functions and usages, which incontestably prevails in our day, will appear much later on. I wanted to point out this historical relativism in the conception of signifying spaces.

Finally, it is in a recent past that a structuralist like Lévi-Strauss has produced, in *Tristes Tropiques,* a form of urban semiology, even if on a reduced scale, apropos of a Bororo village whose space he has studied according to an essentially semantic approach.

It is strange that, parallel to these strongly signifying conceptions of inhabited space, the theoretical elaborations of the urbanists have not hitherto granted, if I am not mistaken, anything but a very reduced status to problems of signification.[2] Of course, there are exceptions; several writers have discussed the city in terms of signification. One of the authors who has best expressed this essentially signifying nature of urban space is, I believe, Victor Hugo. In *Notre-Dame de Paris,* Hugo has written a very fine chapter, of an extremely subtle intelligence, "This will kill that"; *this,* which is to say the book, *that,* which is to say the monument. By expressing himself thus, Hugo gives

evidence of a rather modern way of conceiving the monument and the city, actually as a writing, as an inscription of man in space. This chapter of Hugo's is devoted to the rivalry between two modes of writing, writing in stone and writing on paper. Moreover, this theme can find its current version in the remarks on writing by a philosopher like Jacques Derrida. Among present-day urbanists, signification is virtually unmentioned: one name stands out, therefore, that of the American Kevin Lynch, who seems to be closest to these problems of urban semantics insofar as he is concerned with conceiving the city in the very terms of the perceiving consciousness, i.e., of identifying the image of the city in the readers of that city. But in reality, Lynch's researches, from the semantic point of view, remain quite ambiguous: on the one hand, there is a whole vocabulary of signification in his work (for example, he grants a good deal of attention to the *readability* of the city, and this is a very important notion for us) and, as a good semanticist, he has the sense of *discrete units:* he has tried to rediscover in urban space the discontinuous units which, within limits, somewhat resemble phonemes and semantemes. He calls these units paths, enclosures, districts, intersections, points of reference. These are categories of units which might readily become semantic categories. But on the other hand, despite this vocabulary, Lynch has a conception of the city which remains more gestaltist than structural.

Aside from those authors who explicitly entertain the notion of a semantics of the city, we note a growing consciousness of the functions of symbols in urban space. In several studies of urbanism based on quantitative estimations and on motivation-research, we see appearing—in spite of everything, even if this is only for memory's sake—the purely qualitative motif of symbolization frequently used even today to explain other phenomena. We find for example in urbanism a relatively common technique: simulation; now, the technique of simulation leads, even if it is used in a rather narrow and empirical spirit, to a more thorough investigation of the concept of *model,* which is a structural or at the very least a prestructuralist concept.

At another stage of these studies in urbanism, the demand for signification appears. We gradually discover that there exists a kind of contradiction between signification and another order of phenomena, and that consequently signification possesses an irreducible specificity. For instance, certain urbanists, or certain of those investigators who are studying urban planning, are obliged to note that, in certain cases, there exists a conflict between the functionalism of a part of the city, let us say of a neighborhood or a district, and what I should call its semantic content (its semantic power). Hence they have noted with a certain ingenuousness (but perhaps we must begin with ingenuousness) that Rome presents a permanent conflict between the functional necessities of modern life and the semantic burden communicated to the city by its history. And this conflict between signification and function constitutes the despair of the urbanists. There also exists a conflict between signification and reason, or at least between signification and that calculating reason which wants all the elements of a city to be uniformly recuperated by planning, whereas it is increasingly obvious that a city is a fabric formed not of equal elements whose functions can be inventoried, but of strong elements and nonmarked elements (we know that the opposition between the sign and the absence of sign, between the measurable degree and zero degree, constitutes one of the major processes in the elaboration of signification). From all evidence, each city possesses this kind of rhythm; Kevin Lynch has noted as much: there exists in every city, from the moment when it is truly inhabited by man, and made by him, that basic rhythm of signification which is opposition,

alternation and juxtaposition of marked and nonmarked elements. Lastly, there exists an ultimate conflict between signification and reality itself, at least between signification and that reality of objective geography, the reality of maps. Investigations made by psychosociologists have shown that, for example, two neighborhoods are contiguous if we rely on the map, i.e., on "reality," on objectivity, whereas, from the moment they receive two different significations, they are radically split in the image of the city: signification is experienced in complete opposition to objective data.

The city is a discourse, and this discourse is actually a language: the city speaks to its inhabitants, we speak to our city, the city where we are, simply by inhabiting it, by traversing it, by looking at it. Yet, the problem is to extract an expression like "language of the city" from the purely metaphorical stage. It is metaphorically very easy to speak of *the language of the city* as we speak of the language of the cinema or of the language of flowers. The real scientific leap will be achieved when we can speak of the language of the city without metaphor. And we can say that this is precisely what happened to Freud when he first spoke of the language of dreams, emptying this expression of its metaphorical meaning in order to give it real meaning. We too, we must confront this problem: how to shift from metaphor to analysis when we speak of the language of the city? Once again, it is to the specialists in the urban phenomenon that I am referring, for even if they are quite remote from these problems of urban semantics, they have nonetheless already noted (I am quoting the results of one investigation) that "the usable data in the social sciences offer a form poorly adapted to an integration into models." Indeed, if we have difficulty inserting into a model the urban data supplied us by psychology, sociology, geography, demography, this is precisely because we lack a final technique, that of symbols. Consequently, we need a new scientific energy in order to transform such data, to shift from metaphor to the description of signification, and it is here that semiology (in the broadest sense of the word) may by a still unpredictable development afford us some assistance. It is not my intention to evoke here the procedures for discovering an urban semiology. It is likely that such procedures would consist in dissociating the urban text into units, then in distributing these units into formal classes, and, thirdly, in finding the rules of combination and of transformation for these units and for these models. I shall confine myself to three observations which have no direct relation with the city but which might usefully orient us toward an urban semiology, insofar as they draw up a balance sheet for current semiology and take account of the fact that, in recent years, the semiological "landscape" is no longer the same.

The first observation is that "symbolism" (which must be understood as a general discourse concerning signification) is no longer conceived nowadays, at least as a general rule, as a regular correspondence between signifiers and signifieds. In other words, one notion of semantics which was fundamental some years ago has become outdated; this is the lexicon notion, i.e., that of a set of lists of corresponding signifieds and signifiers. This erosion of the notion of lexicon is to be found in many sectors of research. First of all, there is the distributive semantics of Chomsky's disciples, such as Katz and Fodor, who have launched an attack in force against the lexicon. If we turn from the realm of linguistics to that of literary criticism, we see that the thematic criticism which has prevailed for some fifteen or twenty years, at least in France, and which has formed the essential part of the studies which we know as the new criticism, is nowadays limited, remodeled to the detriment of the signifieds which that criticism proposed to decipher. In the realm of psychoanalysis, finally, we can no longer speak of a term-to-term symbolism; this is obviously the dead part of Freud's work: a

psychoanalytic lexicon is no longer conceivable. All this has cast a certain credit on the word "symbol," for this term has always (till today) suggested that the signifying relation was based on the signified, on the presence of the signified. Personally, I use the word "symbol" as referring to a syntagmatic and/or paradigmatic but no longer semantic signifying organization: we must make a very clear distinction between the semantic bearing of the symbol and the syntagmatic or paradigmatic nature of this same symbol.

Similarly it would be an absurd undertaking to attempt to elaborate a lexicon of the significations of the city by putting sites, neighborhoods, functions on one side, and significations on the other, or rather by putting on one side the sites articulated as signifiers and on the other the functions articulated as signifieds. The list of the functions that a city's neighborhoods can assume has been known for a long time; there are by and large some thirty functions for a neighborhood (at least for a neighborhood of the center-city: a zone which has been closely studied from the sociological point of view). This list can of course be completed, enriched, refined, but it will constitute only an extremely elementary level for semiological analysis, a level which will probably have to be revised subsequently: not only because of the weight and pressure exerted by history, but because, precisely, the signifieds are like mythical beings, of an extreme imprecision, and because at a certain moment they always become the signifiers of something else: the signifieds pass, the signifiers remain. The hunt for the signified can therefore constitute only a provisional undertaking. The role of the signified, when we manage to isolate it, is only to afford us a sort of testimony as to a specific state of the signifying distribution. Further, we must note that we attribute an ever-growing importance to the *empty signified,* to the empty site of the signified. In other words, the elements are understood as signifiers more by their own correlative position than by their content. Thus Tokyo, which is one of the most intricate urban complexes imaginable from the semantic point of view, nonetheless possesses a sort of center. But this center, occupied by the imperial palace which is surrounded by a deep moat and hidden by verdure, is experienced as an empty center. As a more general rule, the studies made of the urban core of different cities have shown that the central point of the center of the city (every city possesses a center), which we call the "solid core," does not constitute the culminating point of any particular activity, but a kind of empty "heart" of the community's image of the center. Here too we have a somehow empty place which is necessary to the organization of the rest of the city.

The second remark is that symbolism must be defined essentially as the world of signifiers, of correlations, and above all of correlations which can never be imprisoned in a full signification, in a final signification. Henceforth, from the point of view of descriptive technique, the distribution of elements, i.e., of signifiers, "exhausts" semantic discovery. This is true for the Chomskian semantics of Katz and Fodor and even for the analyses of Lévi-Strauss which are based on the clarification of a relation which is no longer analogical but homological (this is a demonstration made in his book on totemism, one rarely cited). Hence we discover that, if we want to produce the semiology of the city, we must intensify, more meticulously, the signifying division. For this, I appeal to my experience as an amateur of cities. We know that, in certain cities, there exist certain spaces which present a very extended specialization of functions; this is true, for example, of the Oriental *souk* where one street is reserved for the tanners and another exclusively for the silversmiths; in Tokyo, certain parts of the same neighborhood are quite homogeneous from the functional point of view: we find there only bars or snack bars or places of entertainment. Yet we must go beyond this first

aspect and not limit the semantic description of the city to this unit; we must try to dissociate microstructures in the same way we can isolate tiny sentence fragments within a long period; hence we must get into the habit of making a very extended analysis which will lead to these microstructures, and conversely we must accustom ourselves to a broader analysis, which will lead to macrostructures. We all know that Tokyo is a polynuclear city; it possesses several cores around five or six centers; we must learn to differentiate semantically these centers, which moreover are indicated by railroad stations. In other terms, even in this domain, the best model for the semantic study of the city will be furnished, I believe, at least at the start, by the sentence of discourse. And here we rediscover Victory Hugo's old intuition: the city is a writing; the man who moves about in the city, i.e., the city's user (which is what we all are, users of the city), is a sort of reader who, according to his obligations and his movements, samples fragments of the utterance in order to actualize them in secret. When we move about in a city, we are all in the situation of the reader of Queneau's *100,000 Million Poems,* where we can find a different poem by changing a single verse; unknown to us, we are something like that avant-garde reader when we are in a city.

Lastly, the third observation is that nowadays semiology never posits the existence of a definitive signified. Which means that the signifieds are always signifiers for others, and reciprocally. In reality, in any cultural or even psychological complex, we find ourselves confronted with infinite chains of metaphors whose signified is always recessive or itself becoming a signifier. This structure is beginning to be explored, as you know, in Lacan's psychoanalysis, and also in the study of writing, where it is postulated if it is not actually explored. If we apply these notions to the city, we shall doubtless be led to emphasize a dimension which I must say I have never seen cited, at least never clearly, in the studies and investigations of urbanism. This dimension I should call the *erotic* dimension. The eroticism of the city is the teaching which we can derive from the infinitely metaphorical nature of urban discourse. I am using this word *eroticism* in its broadest sense: it would be absurd to identify the eroticism of a city merely with the neighborhood reserved for such pleasures, for the concept of the place of pleasure is one of the stubbornest mystifications of urban functionalism; it is a functional and not a semantic notion; I am using eroticism or *sociality* here without differentiation. The city, essentially and semantically, is the site of our encounter with the other, and it is for this reason that the center is the gathering point of any city; the center-city is instituted above all by the young, the adolescent. When the latter express their image of the city, they always tend to limit, to concentrate, to condense the center; the center-city is experienced as the exchange-site of social activities and I should almost say of erotic activities in the broad sense of the term. Still better, the center-city is always experienced as the space in which certain subversive forces act and are encountered, forces of rupture, ludic forces. Play is a theme which is very often underlined in the investigations of the center; in France there is a series of investigations concerning the attraction exerted by Paris upon its suburbs, and through these investigations it has been observed that for the periphery Paris as a center was always experienced semantically as the privileged site where the other is and where we ourselves are the other, and the site where one plays. On the contrary, everything which is not the center is precisely what is not ludic space, everything which is not alterity: family, residence, identity. Naturally, especially in terms of the city, we would have to investigate the metaphorical chain, the chain which substitutes for Eros. We must especially investigate, among the major categories, other great habits of humanity, for

example food and shopping, which are actually erotic activities in a consumer society. I refer once again to the example of Tokyo: the great railway stations which are the points of reference of the main neighborhoods are also great department stores. And it is certain that the Japanese railroad station, the station-as-shop, has a unique signification and that this signification is erotic: purchase or encounter. Then we would have to explore the deep images of the urban elements. For example, many investigations have emphasized the imaginary function of the *watercourse* which, in any city, is experienced as a river, a canal, a body of water. There is a relation between the road and the watercourse, and we know that the cities which offer most resistance to signification, and which moreover often present difficulties of adaptation for their inhabitants, are precisely the cities lacking water, the cities without seaside, without a body of water, without a lake, without a river, without a watercourse; all these cities offer difficulties of life, of legibility.

To conclude, I should like to say merely this: in the observations I have just made, I have not approached the problem of methodology. Why? Because, if we seek to undertake a semiology of the city, the best approach, in my opinion, as indeed for any semantic enterprise, will be a certain ingenuity on the reader's part. It will require many of us to attempt to decipher the city where we are, beginning, if necessary, with a personal report. Mustering all these readings of various categories of readers (for we have a complete range of readers, from the sedentary to the foreigner), we would thereby elaborate the language of the city. This is why I shall say that the most important thing is not so much to multiply investigations or functional studies of the city as to multiply the readings of the city, of which, unfortunately, till now, only the writers have given us some examples.

Starting from these readings, from this reconstitution of a language or of a code of the city, we might orient ourselves toward means of a more scientific nature: investigation of units, syntax, etc., but always remembering that we must never try to fix and render rigid the signifieds of the units discovered, for historically these signifieds are extremely imprecise, challengeable, and unmanageable.

Every city is somewhat constructed, created by us in the image of the galley *Argo* of which each piece was no longer an original one, yet which still remained the ship *Argo*, i.e., a group of readily legible and identifiable significations. In this attempt at a semantic approach to the city, we must try to understand the interplay of signs, to understand that any city is a structure but that we must never attempt and never hope to fill that structure.

For the city is a poem, as has often been said and as Hugo put it better than anyone, but not a classical poem, not a poem centered on a subject. It is a poem which deploys the signifier, and it is this deployment which the semiology of the city must ultimately attempt to grasp and to make sing.

Notes

1. On Cleisthenes and Isonomy, cf. P. Leveque and P. Vidal-Naquet, *Clisthène l'Athénien* (Paris: Macula, 1983).
2. Cf. F. Choay, *L'Urbanisme: utopie et réalités* (Paris: Editions du Seuil, 1965).

1967

The implications for architecture theory and practice of the writings of French philosopher and historian **Michel Foucault** were profound, if somewhat belated in being felt. Beginning in the 1960s with *Madness and Civilization: A History of Insanity in the Age of Reason* (first published in French in 1961, translated 1965), *The Birth of the Clinic: An Archaeology of Medical Perception* (1963, translated 1973), and *The Order of Things, An Archaeology of the Human Sciences* (1966, translated 1970), Foucault's "archaeological" project of inquiring into the origins of modern reason and its institutions necessarily extended to architecture, understood in its broadest possible sense as a discipline—an order of discourse—having to do with "the spatialization of knowledge." Within this perspective, the meaning of space, which modern philosophy in its positivistic affiliation with science had tended to subordinate to that of time, again became crucial to understanding the distribution, circulation, and regulation of human life.

Working his way out of the scientific Marxism of Louis Althusser, Foucault sought to redirect critical theory toward a conception of knowledge that was founded on a systematic description of the material relations between history and the formation of consciousness, but no longer predicated, like previous critiques of ideology, on any assumed "truth." He chose to study this process of formation in its most "problematized" or intense contexts, privileging moments of rupture rather than continuity, and contexts exceptional rather than normative, those in which "all the real arrangements . . . that can be found within society are at one and the same time represented, challenged, and overturned." Thus
110–13 beginning from the "epistemological break"—a concept derived from Gaston Bachelard—inaugurated by the Enlightenment, he focused his inquiry on the formation of modern institutions like the insane asylum, the teaching hospital, and later the prison, places where deviant or noneveryday behavior was subjected to a regime and technology of normalization. In the following paper of 1967, Foucault terms such places *heterotopias*. Distinguished from utopias by their concrete and disparate existence within reality, they represent arrangements that are "other" with respect to society, and as such stand as a "contestation of the space in which we live."

After the political upheavals of 1968 Foucault would more explicitly link his investigation of knowledge production with questions of power. He would now describe his method as "genealogical" rather than archaeological, working, as he put it in a seminal essay, "Nietzsche, Genealogy, History" (1971), to establish "not the anticipatory power of meaning, but the hazardous play of dominations." Reason, a historical instrumentality beyond good and evil, as Nietzsche had recognized, was seen by Foucault as both capable of producing terror through its disciplinary regime and indispensable in the evolution of human knowledge.
449–45 For a new generation of architectural historians—Manfredo Tafuri and Anthony Vidler, to mention two—this approach would have the powerful impact of an "event of thought" in Foucault's own sense. After the essay that follows, Foucault would return to questions of built space on several other occasions, notably in remarks on Jeremy Bentham's Panopticon entitled "The Eye of Power" (1977).

From a paper delivered at the Centre d'études architecturales, Paris, in March 1967. Published in part in L'Architettura *150 (April 1968), pp. 822–23. Published in present version as "Des Espaces Autres" in* Architecture Mouvement Continuité *5 (October 1984), pp. 46–49. Republished in English in* Lotus International *48/49 (1985/86), pp. 9–17; and* Diacritics, *vol. 16, no. 1 (spring 1986), pp. 22–27. Translated by Jay Miskowiec. Forthcoming in M. François Ewald, ed.,* Dits et Ecrits de Michel Foucault *(Paris: Editions Gallimard). Courtesy of Editions Gallimard.*

Of Other Spaces: Utopias and Heterotopias

Michel Foucault

As is well known, the great and obsessive dread of the nineteenth century was history, with its themes of development and stagnation, crisis and cycle, the accumulation of the past, the surplus of the dead and the world threatened by cooling. The nineteenth century found the quintessence of its mythological resources in the second law of thermodynamics. Our own era, on the other hand, seems to be that of space. We are in the age of the simultaneous, of juxtaposition, the near and the far, the side by side and the scattered. A period in which, in my view, the world is putting itself to the test, not so much as a great way of life destined to grow in time but as a net that links points together and creates its own muddle. It might be said that certain ideological conflicts which underlie the controversies of our day take place between pious descendants of time and tenacious inhabitants of space. Structuralism—or at least what is lumped together under this rather too vague label—is the attempt to establish between elements that may have been split over the course of time, a set of relationships that juxtapose them, set them in opposition or link them together, so as to create a sort of shape. Actually it is not so much a question of denying time as of a certain way of dealing with what we call time and which goes by the name of history.

For one thing the space which now looms on the horizon of our preoccupations, our theories and our systems, is not an innovation in Western history, having a history of its own. Nor is it possible to deny its fatal entanglement with time. To provide a very rough outline of its history, it could be said that there was a hierarchical system of places in the Middle Ages: places that were sacred and profane, protected and, on the contrary, open and undefended, urban places and rural places (for the real life of men anyhow). In cosmological theory, supercelestial places existed, in contrast to the celestial place, opposed in its turn to the terrestrial place; there were places where things could be found because they had been shifted there by violence and there were other places where, on the contrary, things found their natural position and rest. This hierarchy, contrast, and mingling of places made up that which might, very approximately, be called medieval space. That is to say, the space of localization.

This space of localization was opened up by Galileo, for the real scandal caused by Galileo's work was not the discovery, or rediscovery, of the earth's movement around the sun, but the assertion of an infinite and infinitely open space, in which the space of the Middle Ages was to some extent dissolved. The location of a thing, in fact, was no longer anything more than a point in its movement, its rest nothing but its movement slowed down infinitely. In other words, from Galileo onward, ever since the seventeenth century, localization was replaced by extension.

Nowadays arrangement has taken over from extension, which had once replaced localization. It is defined by relationships of neighborhood between points and elements, which can be described formally as series, trees, and networks.

On the other hand, we know very well the importance of the problems of arrangements in contemporary technology: storage of information or of the partial results of a calculation in the memory of a machine; circulation of discrete elements to random outlets (automobiles, for instance, or even sounds transmitted over telephone lines); location of labeled or coded elements within a randomly divided set, or one that is classified according to univocal or multiple systems, etc.

In a still more concrete manner, the problem of position is posed for men in

demographic terms. The question of the arrangement of the earth's inhabitants is not just one of knowing whether there will be enough room for all of them—a problem that is in any case of the greatest importance—but also one of knowing what are the relations of vicinity, what kind of storage, circulation, reference, and classification of human elements should take preference in this or that situation, according to the objective that is being sought. In our era, space presents itself to us in the form of patterns of ordering.

In any case, I feel that current anxiety is fundamentally concerned with space, much more than with time: the latter, probably, merely appears to us as one of the many possible patterns of distribution between elements that are scattered over space.

Now, it may be that contemporary space has not yet lost those sacred characteristics (which time certainly lost in the nineteenth century), in spite of all the techniques that assail it and the web of knowledge that allows it to be defined and formalized. Of course, a theoretical desanctification of space, for which Galileo's work gave the signal, has already occurred: it remains to be seen whether we have achieved its desanctification in practice. It may be, in fact, that our lives are still ruled by a certain number of unrelenting opposites, which institution and practice have not dared to erode. I refer here to opposites that we take for granted, such as the contrast between public and private space, family and social space, cultural and utilitarian space, the space of pleasure and the space of work—all opposites that are still actuated by a veiled sacredness.

The (immense) work of Bachelard and the descriptions of the phenomenologists have taught us that we do not live in a homogeneous and empty space, but in a space that is saturated with qualities, and that may even be pervaded by a spectral aura. The space of our primary perception, of our dreams and of our passions, holds within itself almost intrinsic qualities: it is light, ethereal, transparent, or dark, uneven, cluttered. Again, it is a space of height, of peaks, or on the contrary, of the depths of mud; space that flows, like spring water, or fixed space, like stone or crystal.

In any case, these analyses, however fundamental for contemporary thought, are primarily concerned with inner space. But it is about external space that I would like to speak now. The space in which we live, from which we are drawn out of ourselves, just where the erosion of our lives, our time, our history takes place, this space that wears us down and consumes us, is in itself heterogeneous. In other words, we do not live in a sort of a vacuum, within which individuals and things can be located, or that may take on so many different fleeting colors, but in a set of relationships that define positions which cannot be equated or in any way superimposed.

Certainly, one could undertake the description of these different arrangements, looking for the set of relationships that defines them. For instance, by describing the set of relationships that defines arrangements of transition, roads, trains (and, with regard to the latter, think of the extraordinary bundle of relations represented by something through which one passes, by means of which we pass from one point to another, and which, in its turn, has the power of passing). Through the sets of relationships that define them, one could describe arrangements where one makes a temporary halt: cafes, cinemas, beaches. It would be equally possible to define, through its network of relations, the arrangements of rest, closed or partly open, that make up the house, the bedroom, the bed, etc. . . . However I am only interested in a few of these arrangements: to be precise, those which are endowed with the curious property of being in relation with all the others, but in such a way as to suspend,

neutralize, or invert the set of relationships designed, reflected, or mirrored by themselves. These spaces, which are in rapport in some way with all the others, and yet contradict them, are of two general types.

First of all, the utopias. These are arrangements which have no real space. Arrangements which have a general relationship of direct or inverse analogy with the real space of society. They represent society itself brought to perfection, or its reverse, and in any case utopias are spaces that are by their very essence fundamentally unreal.

There also exist, and this is probably true for all cultures and all civilizations, real and effective spaces which are outlined in the very institution of society, but which constitute a sort of counterarrangement, of effectively realized utopia, in which all the real arrangements, all the other real arrangements that can be found within society, are at one and the same time represented, challenged, and overturned: a sort of place that lies outside all places and yet is actually localizable. In contrast to the utopias, these places which are absolutely *other* with respect to all the arrangements that they reflect and of which they speak might be described as heterotopias. Between these two, I would then set that sort of mixed experience which partakes of the qualities of both types of location, the mirror. It is, after all, a utopia, in that it is a place without a place. In it, I see myself where I am not, in an unreal space that opens up potentially beyond its surface; there I am down there where I am not, a sort of shadow that makes my appearance visible to myself, allowing me to look at myself where I do not exist: utopia of the mirror. At the same time, we are dealing with a heterotopia. The mirror really exists and has a kind of comeback effect on the place that I occupy: starting from it, in fact, I find myself absent from the place where I am, in that I see myself in there.

Starting from that gaze which to some extent is brought to bear on me, from the depths of that virtual space which is on the other side of the mirror, I turn back on myself, beginning to turn my eyes on myself and reconstitute myself where I am in reality. Hence the mirror functions as a heterotopia, since it makes the place that I occupy, whenever I look at myself in the glass, both absolutely real—it is in fact linked to all the surrounding space—and absolutely unreal, for in order to be perceived it has of necessity to pass that virtual point that is situated down there.

As for the heterotopias in the proper sense of the word, how can we describe them? What meaning do they have? We might postulate, not a science, a now overworked word, but a sort of systematic description. Given a particular society, this would have as its object the study, analysis, description, and "reading," as it is the fashion to call it nowadays, of those different spaces, those other places, in a kind of both mythical and real contestation of the space in which we live. Such a description might be called heterotopology. Its first principle is that there is probably not a single culture in the world that is not made up of heterotopias. It is a constant feature of all human groups. It is evident, though, that heterotopias assume a wide variety of forms, to the extent that a single, absolutely universal form may not exist. In any case, it is possible to classify them into two main types. In so-called primitive societies, there is a certain kind of heterotopia which I would describe as that of crisis; it comprises privileged or sacred or forbidden places that are reserved for the individual who finds himself in a state of crisis with respect to the society or the environment in which he lives: adolescents, women during the menstrual period or in labor, the old, etc.

In our own society, these heterotopias of crisis are steadily disappearing, even though some vestiges of them are bound to survive. For instance, the boarding school

in its nineteenth-century form or military service for young men has played a role of this kind, so that the first manifestations of male sexuality could occur "elsewhere," away from the family. For girls there was, up until the middle of this century, the tradition of the honeymoon, or "voyage de noces" as it is called in French, an ancestral theme. The girl's defloration could not take place "anywhere" and at that time, the train or the honeymoon hotel represented that place which was not located anywhere, a heterotopia without geographical coordinates.

Yet these heterotopias of crisis are vanishing today, only to be replaced, I believe, by others which could be described as heterotopias of deviance, occupied by individuals whose behavior deviates from the current average or standard. They are the rest homes, psychiatric clinics, and, let us be clear, prisons, in a list which must undoubtedly be extended to cover old-people's homes, in a way on the border between the heterotopia of crisis and that of deviance. This is because in a society like our own, where pleasure is the rule, the inactivity of old age constitutes not only a crisis but a deviation.

The second element of my description: over the course of its history, a society may take an existing heterotopia, which has never vanished, and make it function in a very different way. Actually, each heterotopia has a precise and well-defined function within society and the same heterotopia can, in accordance with the synchroneity of the culture in which it is located, have a different function.

Let us take, for example, the curious heterotopia of the cemetery. This is certainly an "other" place with respect to ordinary cultural spaces, and yet it is connected with all the locations of the city, the society, the village, and so on, since every family has some relative there. In Western culture, one might say that it has always existed. And yet it has undergone important changes.

Up until the end of the eighteenth century, the cemetery was located in the very heart of the city, near the church.

Within it, there existed a hierarchy of every possible type of tomb. There was an ossuary where the corpses lost their last traces of individuality, there were some individual tombs, and there were the graves inside the church, which conformed to two models, either a simple slab of marble, or a mausoleum with statues, etc. The cemetery, situated in the sacred space of the church, has taken on quite another character in modern civilization. It is curious to note that in an age which has been very roughly defined as "atheist," Western culture has inaugurated the so-called cult of the dead.

After all, it was very natural that, as long as people actually believed in the resurrection of the body and the immortality of the soul, not a great deal of importance was given to the mortal remains. On the contrary, from the moment when people were no longer so certain of survival after death, it became logical to take much more care with the remains of the dead, the only trace, in the end, of our existence in the world and in words.

In any case, it is from the nineteenth century onward that each of us has had the right to his own little box for his little personal decomposition, but it is only from the nineteenth century on that the cemetery began to be shifted to the outskirts of the city. In parallel to this individualization of death and the bourgeois appropriation of the cemetery, an obsession with death as "sickness" has emerged. It is supposed that the dead transmit sickness to the living and that their presence and proximity to the houses and church, almost in the middle of the street, spreads death. This great concern with the spread of sickness by contagion from cemeteries began to appear with insistence

toward the end of the eighteenth century, but the cemeteries only moved out to the suburbs during the course of the nineteenth. From then on, they no longer constituted the sacred and immortal wind of the city, but the "other city," where each family possessed its gloomy dwelling.

Third principle. The heterotopia has the power of juxtaposing in a single real place different spaces and locations that are incompatible with each other. Thus on the rectangle of its stage, the theater alternates as a series of places that are alien to each other; thus the cinema appears as a very curious rectangular hall, at the back of which a three-dimensional space is projected onto a two-dimensional screen. Perhaps the oldest example of these heterotopias in the form of contradictory locations is the garden. Let us not forget that this astounding and age-old creation had very profound meanings in the East, and that these seemed to be superimposed. The traditional garden of the Persians was a sacred space that was supposed to unite four separate parts within its rectangle, representing the four parts of the world, as well as one space still more sacred than the others, a space that was like the navel, the center of the world brought into the garden (it was here that the basin and jet of water were located). All the vegetation was concentrated in this zone, as if in a sort of microcosm. As for carpets, they originally set out to reproduce gardens, since the garden was a carpet where the world in its entirety achieved symbolic perfection, and the carpet a sort of movable garden in space. The garden is the smallest fragment of the world and, at the same time, represents its totality, forming right from the remotest times a sort of felicitous and universal heterotopia (from which are derived our own zoological gardens).

Fourth principle. Heterotopias are linked for the most part to bits and pieces of time, i.e., they open up through what we might define as a pure symmetry of heterochronisms. The heterotopia enters fully into function when men find themselves in a sort of total breach of their traditional time. Then it is easy to see how the cemetery is a highly heterotopian place, in that it begins with that strange heterochronism that is, for a human being, the loss of life and of that quasi-eternity in which, however, he does not cease to dissolve and be erased.

Generally speaking, in a society like ours, heterotopia and heterochronism are organized and arranged in a relatively complex fashion. In the first place there are the heterotopias of time which accumulate *ad infinitum,* such as museums and libraries. These are heterotopias in which time does not cease to accumulate, perching, so to speak, on its own summit. Yet up until the end of the seventeenth century, these had still been the expression of an individual choice. The idea of accumulating everything, on the contrary, of creating a sort of universal archive, the desire to enclose all times, all eras, forms, and styles within a single place, the concept of making all times into one place, and yet a place that is outside time, inaccessible to the wear and tear of the years, according to a plan of almost perpetual and unlimited accumulation within an irremovable place, all this belongs entirely to our modern outlook. Museums and libraries are heterotopias typical of nineteenth-century Western culture.

Along with this type, bound up with the accumulation of time, there are other heterotopias linked to time in its more futile, transitory and precarious aspects, a time viewed as celebration. These then are heterotopias without a bias toward the eternal. They are absolutely time-bound. To this class belong the fairs, those marvelous empty zones outside the city limits, that fill up twice a year with booths, showcases, miscellaneous objects, wrestlers, snake-women, optimistic fortune-tellers, etc. Very recently, a new form of chronic heterotopia has been invented, that of the holiday

village: a sort of Polynesian village which offers three short weeks of primitive and eternal nudity to city dwellers. It is easy to see, on the other hand, how the two types of heterotopia, that of the festival and that of the eternity of accumulating time, come together: the huts on the island of Jerba are relatives in a way of the libraries and museums. And in fact, by rediscovering Polynesian life, is not time abolished at the very moment in which it is found again? It is the whole story of humanity that dates right back to the origins, like a kind of great and immediate knowledge.

Fifth principle. Heterotopias always presuppose a system of opening and closing that isolates them and makes them penetrable at one and the same time. Usually, one does not get into a heterotopian location by one's own will. Either one is forced, as in the case of the barracks or the prison, or one must submit to rites of purification. One can only enter by special permission and after one has completed a certain number of gestures. Heterotopias also exist that are entirely devoted to practices of purification that are half religious, half hygienic (the Muslim "hammams"), or apparently solely hygienic (Scandinavian saunas).

Other heterotopias, on the contrary, have the appearance of pure and simple openings, although they usually conceal curious exclusions. Anyone can enter one of these heterotopian locations, but, in reality, they are nothing more than an illusion: one thinks one has entered and, by the sole fact of entering, one is excluded. I am reminded, for instance, of those famous rooms to be found on big farms in Brazil and throughout South America in general. The front door did not give onto the main part of the house, where the family lived, so that any person who happened to pass by, any traveler, had the right to push open that door, enter the room, and spend the night there. Now, the rooms were arranged in such a way that anyone who went in there could never reach to the heart of the family: more than ever a passing visitor, never a true guest. This type of heterotopia, which has now almost entirely vanished from our civilization, might perhaps be recognized in the American "motel" room, which one enters with one's own vehicle and lover and where illicit sex is totally protected and totally concealed at one and the same time, set apart and yet not under an open sky.

Finally, the last characteristic of heterotopias is that they have, in relation to the rest of space, a function that takes place between two opposite poles. On the one hand they perform the task of creating a space of illusion that reveals how all of real space is more illusory, all the locations within which life is fragmented. On the other, they have the function of forming another space, another real space, as perfect, meticulous, and well-arranged as ours is disordered, ill-conceived, and in a sketchy state. This heterotopia is not one of illusion but of compensation, and I wonder if it is not somewhat in this manner that certain colonies have functioned.

In a number of cases they have played, at the level of the general organization of terrestrial space, the genuine role of a heterotopia. An example of this, from the first wave of colonization in the seventeenth century, might be some of the Puritan colonies founded by the English in America, which were absolutely perfect places.

Or those extraordinary Jesuit colonies, set up in South America: wonderful, totally regulated colonies, in which human perfection was actually reached. The Jesuits of Paraguay had established settlements in which existence was regulated point by point. The village was laid out according to a strict pattern around a rectangular square at one end of which stood the church; on one side, the college, on the other the cemetery, while, facing the church, there was a street which met another at a right angle. Each family's hut lay on one of these two axes, reproducing exactly the symbol

of Christ. Thus Christianity made its fundamental mark on the space and geography of the American world.

The daily life of individuals was regulated not by the whistle, but by the bell: the same hour of awakening laid down for all, with meals at midday and five o'clock. Afterward people went to bed and, at midnight, came what was known as the conjugal awakening: at this sound of the monastery's bell, each of them did his and her duty.

Brothels and colonies, here are two extreme types of heterotopia. Think of the ship: it is a floating part of space, a placeless place, that lives by itself, closed in on itself and at the same time poised in the infinite ocean, and yet, from port to port, tack by tack, from brothel to brothel, it goes as far as the colonies, looking for the most precious things hidden in their gardens. Then you will understand why it has been not only and obviously the main means of economic growth (which I do not intend to go into here), but at the same time the greatest reserve of imagination for our civilization from the sixteenth century down to the present day. The ship is the heterotopia *par excellence*. In civilizations where it is lacking, dreams dry up, adventure is replaced by espionage, and privateers by the police.

1967

In the 1960s the recourse by many leftist architects to sociology and politics reflected a fundamental questioning of the architect's role in society. In France, in the increasingly turbulent atmosphere that would culminate in the student upheavals of 1968, critics inside and outside the profession were asking whether there was still a need for architects at all. The traditional figure of the architect as form-giver, "isolated in his 'liberal' profession like a demigod," as one writer put it, "an individual artisan enshrined in corporate egoism," was not only *passé* but a complicitous symbol of what was wrong with the existing system.

A central intellectual figure within this context was the Marxist philosopher and sociologist **Henri Lefebvre**, whose multivolume *Critique de la vie quotidienne,* begun in the late 1940s, focused on the relations between everyday life in modern society and urbanism. The evolution of many of Lefebvre's central themes—the need for play and spontaneity in daily life, the suppression of human vitality through bureaucratic planning, the eruptive role of "moments" of radical possibility in urban experience—paralleled the rise of the bleak and anonymous social housing developments built on the outskirts of French cities in the 1950s and 1960s, immemorialized by Jean-Luc Godard in his film *Alphaville* (1965) and decried by Lefebvre. In influential writings of the 1960s, notably *Le Droit à la ville* (1968), the title chapter of which appears here, he sought to bridge the gap between urban practice and theory—to outline a *praxis* of the city synthesizing objective analysis and "experimental utopia." The latter involved the deployment of the "imaginary" in the production of new concepts of urban life. Critical of what he saw as the three dominant architectural ideologies of the day—structuralism, formalism, and functionalism—in equal measure, Lefebvre assailed architects for their mechanistic application of these partial models. Through his own totalistic approach he aimed to counter the overspecialization of the various disciplines acting on the city, including architecture, while offering a perspective that, despite its globalism, remained open to future transformations.

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167–71 Situationists, an avant-garde group led in the 1960s by Guy Debord. Debord used Lefebvre's concept of the festival to attack the "society of the spectacle," depicted in his book of 1967. Another group of young Lefebvre protégés, also influenced by the Situationists, was Utopie, founded in 1967. Its interdisciplinary membership included urban historian Hubert Tonka, theorist Jean Baudrillard, feminist Isabelle Auricoste, and architects Jean Aubert, Jean-Paul Jungmann,
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From Henri Lefebvre, Le Droit à la ville *(Paris: Editions Athropos, 1968), pp. 115–33. Translated by Christian Hubert. Courtesy of Editions Economica, Paris.*

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The Right to the City
Henri Lefebvre

Theoretical analysis must redefine the forms, functions, and structures of the city (economical, political, cultural, etc.) as well as the social needs inherent to urban society. Until now, only individual needs, their motivations marked by what is known as consumer society (the bureaucratic society of programmed consumption), have been considered and have in fact been more manipulated than effectively recognized and examined. Social needs have an anthropological basis; they have opposite and complementary aspects: they include the need for security and the need for openness, the need for certainty and the need for adventure, that of the organization of labor and that of play, needs for predictability and unpredictability, for unity and difference, for isolation and encounter, for exchanges and investments, for independence (even solitude) and communication, for immediacy and for long-term perspective. The human being also needs to accumulate energy as well as to expend it, even to waste it in play. He needs to see, to hear, to touch, and to taste, and he needs to unify these perceptions in a "world." In addition to these anthropological requirements which are socially developed (that is to say sometimes separated, sometimes combined, in one instance compressed and in another distended) one must add specific needs which are not satisfied by the commercial and cultural complexes that urbanists take rather meagerly into account. It is a matter of the need for creative activity, for work (not just products and material consumer goods); of the needs for information, for symbolism, for imagination, for play. A fundamental desire resides in these specific needs, which finds its specific embodiments, its *moments,* in play, in sexuality, in corporeal activities like sports, in creative activity, in art and in learning, which more or less overcome the specialized division of labor. In the end, the needs of the city and of urban life are only given free expression in the perspectives which emerge here and the horizons that they open up. Are not needs for designated places, places of simultaneity and encounter, places where exchange does not pass into exchange value, commerce, and profit—are these not specific urban needs? Is there not also the need for a time for such encounters, such exchanges?

Today the requisite *analytical science of the city* exists only in its barest outlines. Its concepts and theories, currently in their beginning stages, can only advance along with urban reality in formation, with the *praxis* (the social practice) of urban society. The current move beyond the ideologies and practices that blocked the horizon, those bottlenecks of knowledge and action that marked a threshold to be crossed is proceeding only with difficulty.

The *science of the city* has the city as its object. This science borrows its methods, procedures, and concepts from the specialized sciences. Synthesis eludes it on two fronts. First, inasmuch as a truly total synthesis, based on analysis, can only consist of a systematization and programming that are strategic. Second, because its object, the city as a developed reality, is itself decomposing. The inquiry which seeks to cut up and recompose the fragments of the city confronts a historical entity already modified. As a social text, this historical city no longer expresses a series of coherent prescriptions for spending time in relation to symbols, to a style. The text recedes. It takes on the quality of a document, of an exhibition, of a museum. It is no longer possible to inhabit the historically formed city in concrete practice. It has become a mere object of cultural consumption for tourists, for an aesthetic attitude avid for spectacle and the picturesque.

The city is dead even to those who seek to know it most sympathetically. And yet the *urban* still persists, in a state of dispersal and alienation, as a seed, as a virtuality. What the eye sees and analysis distinguishes in this landscape can at best be the passing shadow of a future object in the light of a rising sun. It is impossible to envisage the reconstituting of the old city, only the construction of a new city, on a new basis, at another scale, in other conditions, in another society. Neither return to the past (to the traditional city) nor headlong flight into the future, toward a colossal and unformed agglomeration—this is the prescription. In other words, as far as the city is concerned, the object of inquiry has not been given. The past, the present, and the future are not to be separated. Thought studies a *virtual object*. It calls for new procedures.

The career of the old classical humanism ended long ago, and badly. The old humanism is dead. Its embalmed and mummified corpse is heavy and doesn't smell good. It occupies many a public place, transforming each one into a cemetery with a human appearance: museums, universities, various publications. Then there are the new towns and periodicals devoted to urbanism. They serve as packaging for trivialities and platitudes. "Human scale," they say. When it is immoderation that we should take as our task, and create "something" on the measure of the universe.

This old humanism met its death in the two world wars, during the demographic surges that accompanied the great massacres, in the face of the brutal demands of economic competition and under the impetus of poorly mastered techniques. Humanism is not even an ideology anymore, barely a theme of official rhetoric.

As if the death of classical humanism implied that of man as well, we have recently heard cries of "God is dead, and man is too." There is nothing new in these slogans for best-sellers, taken up in turn by irresponsible advertising. The Nietzschean meditation on the theme started almost a century ago, during the Franco-Prussian war of 1870, an ill omen for the culture and civilization of Europe. When Nietzsche announced the death of God and that of man, he did not leave a gaping void; nor did he fill it in with whatever baggage was at hand: with language and linguistics. He announced the Superman as well, whom he thought was to come. He overcame the nihilism that he diagnosed. Those authors who coin theoretical and poetic currency a century too late plunge us back into nihilism. Since the time of Nietzsche, the dangers of the Superman have made themselves all too cruelly clear. In addition, the "new man" born of industrial production and rational planning as such has only been a disappointment. There is one more path available, that of urban society and of that which is human as creative work in a society which would be a work, not a product. Either the supersession of the old "social animal" and of the inhabitant of the old city, the urban animal, in favor of urban man, polyvalent, polysensory, and capable of complex and transparent relations to "the world" (his environment and himself); or nihilism. If man is dead, for whom should we build? How should we build? It scarcely matters whether the city has disappeared for it to be necessary to think the city anew, to reconstruct it on a new set of principles, or to supersede it altogether. It scarcely matters whether terror reigns, whether the atomic bomb is dropped, whether the world explodes. What is important? Who thinks? Who acts? Who still speaks and for whom? If meaning and purpose disappear, if we can no longer consider them as part of a praxis, then nothing of importance or interest remains. And what is one to reply, what is one to do if the capacities of the "human being"—technique, science, imagination, art, or their absence—are set up as autonomous agents and if reflective thought simply accepts this observation?

The old humanism is receding in the distance and disappearing behind us. We are becoming less and less nostalgic and only occasionally turn back to gaze upon its outline stretched across the road. It was the ideology of the liberal bourgeoisie. It turned its attention to the people, to human suffering. It sustained the rhetoric of poetic souls, of grand sentiments and good consciences. It was concocted out of Greco-Latin citations sprinkled with Judeo-Christian elements. A ghastly cocktail, enough to make one vomit. Only a few "left" intellectuals (do any intellectuals still remain on the "right"?), neither revolutionary nor openly reactionary, neither dionysiac nor apollonian, still have a taste for this sorry potion.

We must direct ourselves toward a new humanism, toward a new praxis and an other being, that of urban society. We must get away from the myths that threaten our will by destroying the ideologies that turn us back from this project and the strategies that divert its course. Urban life has yet to begin. Today we are concluding the inventory of the debris of a millennium in which the country dominated the town, whose ideas, whose "values," whose taboos and prescriptions were for the most part of agrarian origin, whose dominants were rural and "natural." Only sporadically did cities manage to emerge from the vastness of the countryside. Rural society was (and remains) one of unabundance, of scarcity and deprivation accepted or rejected, of prohibitions that developed and normalized those deprivations. It was also a society of festivals, but this, its best aspect, has been lost and is what should be resurrected, not the myths and limitations! A crucial observation: the crisis of the traditional city goes with the worldwide crisis of agrarian society, which is equally traditional. They go together and indeed coincide. It is for "us" to resolve this double crisis, particularly in the creation of both the new city and the new form of life in the city. The revolutionary states (including the U.S.S.R. ten or fifteen years after the October revolution) have sensed the development of society based on industry, but only as a premonition.

In the preceding sentences, the term "we" is only a metaphor. It designates the interested parties. Neither the architect nor the urban planner, neither the sociologist nor the economist, neither the philosopher nor the politician, can pluck the new forms and new relations out of the air. To be more specific, the architect cannot work miracles any more than the sociologist. Neither one creates social relations. Under certain favorable conditions, they can help tendencies to find expression (to take on form). Only social life (praxis) in its global capacity has such power—or lacks this power. The people mentioned above, either separately or as a team, can clear the path. They can also propose, try out, prepare forms. They can also (and most importantly) make an inventory of their acquired experiences, draw lessons from failures, help give birth to the possible, through a maieutics nourished by science.

At this point we must indicate the urgent necessity of a transformation of intellectual procedures and instruments. Recalling some of the formulations we used elsewhere, we consider certain mental procedures that still remain unfamiliar to be indispensable.

a. *Transduction.* This is an intellectual operation which can be carried out methodically and which differs from induction, from classical deduction, and also from the construction of "models," from simulation, and from the simple expression of hypotheses. Transduction constructs and develops a theoretical object, a *possible* object on the basis of information that applies to reality as well as to a problematic raised by that reality. Transduction entails a constant feedback between the conceptual framework and empirical observation. Its theory (methodology) gives form to certain spontaneous

mental operations of the urbanist, the architect, the sociologist, the political scientist, the philosopher. It brings rigor to invention and knowledge to utopianism.

b. *Experimental utopia.* Who is not a *utopian* today? Only narrowly specialized practitioners who work on demand without the least critical examination of the norms and constraints stipulated of them. Only these relatively uninteresting individuals escape utopianism. Everyone else is utopian, including futurologists, the planners projecting the Paris of the year 2000, the engineers who built Brasilia, and so on! But there are several utopianisms. Isn't the worst the unacknowledged one, which wears the mantle of positivism and imposes in its name the strictest constraints and the most derisory lack of technique?

Utopia should be considered experimentally, by studying its implications and consequences in the field. They may surprise. What are and what will be socially successful places? How can we detect them? According to what criteria? What modes of time, what rhythms of daily life inscribe themselves, write themselves, prescribe themselves in these "successful" places, that is to say, places which are conducive to happiness? This is what is interesting.

Other indispensable intellectual procedures: to discern, without dissociating them, three fundamental theoretical concepts—structure, function, and form. To know their range of influence, their areas of application, their limits, and their reciprocal relations; to understand that they form a whole, but that the elements of the whole have a certain independence and relative autonomy; not to privilege one of them, which gives rise to an ideology, that is to say a dogmatic and closed system of significations—structuralism, formalism, or functionalism. To use them one by one, on an equal footing, for the analysis of the real (an analysis which is never exhaustive, never without residue) as well as for the operation of "transduction." To firmly understand that the same function can be carried out by different structures, that there is no unique link between the terms. That function and structure take on different forms which both reveal and conceal them—that this triple aspect constitutes a "whole" which is more than these aspects, elements, and parts.

Among the intellectual tools we possess, there is one that merits neither disdain nor absolute privilege: the *system* (or rather *subsystem*) of significations.

Politicians have their own systems of signification—ideologies—which allow them to subordinate their actions and their social influence to their strategies.

At the ecological level, the humble inhabitant has his own system of significations (or rather his subsystem). The simple fact of living here or there entails the reception, the adoption, and the transmission of such a system, for example the one that goes with the habitat of the detached dwelling. The inhabitant's system of signification tells of his activities and passivities; it is received but also modified in practice. It is perceived.

Architects seem to have established and made dogma out of a complex of significations, poorly explained as such and expressed under diverse terms: "function," "form," "structure"; or rather functionalism, formalism, and structuralism. They develop these notions not on the basis of the meanings that are perceived and experienced by the inhabitants, but from facts of habitation, as they themselves interpret them. These facts are verbal and discursive, tending toward metalanguage. They involve writings and visualizations. Because of the fact that architects constitute a social body, that they are tied to institutions, their system tends to close up, to impose itself, and to escape all criticism. This allows for the system to be formulated and set up as *urbanism* by extrapolation, without any other procedure or precaution.

The theory which could legitimately be called *urbanism,* which would tie into the significations of the old practice of *inhabitation* (that is to say, the human) and which would add to these partial facts the general theory of urban *time-spaces* and which would lead to a new practice stemming from its development—this urbanism already exists virtually. It can only be thought of as the practical implication of a complete theory of the city and of the urban, superseding the currents schisms and separations. In particular the split between the philosophy of the city and the science (or sciences) of the city. Current urbanistic projects may find their place in this trajectory, but only when subjected to vigilant critical examination of their ideological and strategic implications.

Insofar as one can define it, our object—*the urban*—will never be fully present and realized in our thought of today. More than any other object, its nature as a whole is extremely complex in nature, both in action and in potential. As an object of research it reveals itself in piecemeal fashion and will perhaps never be known exhaustively. To take this "object" as real and truthful is an ideology, a mythifying operation. Our inquiry must consider a vast number of methods for seizing this object, without fixating on one procedure. Analytic divisions must adhere as closely as possible to the internal articulations of this "thing" which is not a thing; they will give rise to reconstructions that can never be complete. Descriptions, analyses, attempts at synthesis can never claim to be exhaustive or definitive. Every notion, every arsenal of concepts comes into play: form, structure, function, level, dimension, dependent and independent variables, correlations, totality, ensemble, systems, etc. Here as elsewhere, but here even more, the residue is the most precious. The construction of every "object" will itself be subjected to critical review. Insofar as possible, it will be carried out and subjected to experimental verification. The science of the city requires a historical time frame to establish itself and to direct its social practice.

While it is necessary, this science is not sufficient. We can see not only its necessity but also its limits. Urbanistic thought proposes the establishment or the reconstitution of highly original (and localized) social units, particularized and centralized, whose relations and tensions would reestablish an urban unity endowed with a complex internal order, not without structure but with a supple structure and hierarchy. More specifically, sociological reflection aims at the understanding and the reconstitution of the integrative capacities of the urban as well as the conditions for practical participation. Why not? On one condition: one should never exempt these specialized and thus partial attempts from criticism, from verification in practice, from an overall perspective.

Knowledge can thus construct and propose "models." Each "object" in this sense is none other than a model of urban reality. And yet such a "reality" will never become manageable like a material object, it will never become instrumentalized. This holds true even for the most operational forms of knowledge. Who would not wish the city to become what it once was: the act and creation of a complex thought? But one remains at the level of wish and aspiration if one does not determine an *urban strategy.* Such a strategy cannot but take into account both existing strategies and previously acquired knowledge: the science of the city, the knowledge directed at the planning of growth and control of development. To mention "strategy" is to refer to the hierarchy of "variables" to be taken into account, some of which have strategic capacities, while others remain at the tactical level—and is also to refer to the forces capable of realizing this strategy in the field. Only groups, classes, or segments of social classes capable of revolutionary initiatives can assume the burden and fully accomplish solutions to urban problems; the renovated city will become the creation of these social and

political forces. The first task is to undo the strategies and dominant ideologies within contemporary society. The fact that there are several groups and several strategies with their own differences (between private interests and the state, for example) does not change the situation. From issues of land ownership to problems of segregation, each project of *urban reform* calls into question the structures of the existing society, of immediate (individual) and quotidian relations, as well as those that are intended to be imposed by constraint and institution on what remains of urban reality. While *reformist* in itself, the strategy of urban reform becomes "necessarily" revolutionary, not because of the force of events but because of its opposition to what is already in place. An urban strategy based on the science of the city needs a social basis and political force to be effective. It cannot act on its own. It cannot help but rely on the existence and actions of the working class, the only class capable of putting an end to a segregation aimed essentially against it. Only this class, as a class, can decisively contribute to the reconstitution of the center destroyed by segregation and redeployed in the menacing forms of "centers of decision-making." This is not to say that the working class alone will make urban society, but that nothing is possible without it. Integration without the working class is meaningless, and without it disintegration will continue, masked by a nostalgia for integration. This is not just an option, but a whole horizon of possibility that opens up or closes down. When the working class remains silent, when it does not act and cannot accomplish what theory defines as its "historic mission," then both the "subject" and the "object" are missing. And reflective thought ratifies this absence. As a result, one must develop two series of proposals:

a. *A political program of urban reform* defined neither by the managers nor by the possibilities of current society, not subjected to "realism" although based on the study of reality (in other words: reform not limited to reformism). This program will thus have a singular and even paradoxical character. It will be in the form of a proposal to the existing political forces, to the parties. One can even add that it will be submitted preferentially to the parties of the "left," the political entities that represent or seek to represent the working class. But this program will not be set forth as a function of these forces and formations. Its specific character will be in relation to knowledge. It will thus contain a scientific aspect. It will be *proposed* (even though this may entail modifications by those who take it on). The political forces should assume their responsibilities. In this domain which affects the future of modern society as well as its producers, we appeal to the responsibility to history which ignorance and indifference put at risk.

b. Intensively elaborated *urban projects* that include "models" and forms of urban space and time without concern for whether they can be realized today, for whether they are utopistic (which is to say, "utopian" projects). It would appear that these models cannot result from simple analysis of existing cities and urban types nor from the simple combination of elements. The possible forms of time and space, unless proven otherwise, are to be invented and proposed to praxis. Imagination must be deployed, not the imaginary which allows for escape and evasion, which is the conveyor of ideologies, but the imaginary which is engaged in *appropriation* (of space, of time, of physiological activity, of desire). Why not counter the idea of the eternal city with ephemeral cities, the fixed center with multiple moving centers? Every daring gesture is permitted. Why limit these proposals to the single morphology of time and space? Why not include in this plan proposals for life styles, for ways of living in the city, for development of the urban?

Short-term, medium-term, and long-term proposals will all enter these two series

and will constitute the urban strategy proper.

The society we live in seems directed toward plenitude or at least satiation (of durable goods and objects, quantity, satisfaction, rationality), but in fact it opens up a colossal void. Ideologies dance about in this void. The fog of rhetoric spreads across it. One of the greatest ambitions for active thought, moving out of speculation and contemplation, and away from the fragmentary divisions of specialized knowledge, is to populate this lacuna, and not simply with words.

In a period in which ideologues carry on about structures, the destructuring of the city is an indication of the depths of disintegration (both social and cultural). This society, taken as a whole, reveals itself *lacking.* There are holes, sometimes gaping voids between the subsystems and the structures that are consolidated by various means (constraint, terror, ideological persuasion). These empty places are not the products of chance. They are also sites of possibility. They contain elements that float freely or are dispersed without the strength to assemble them. What is more: the structuring activity and the power of the social vacuum tend to prohibit the actions or the simple presence of such a force. The instances of the possible can only be realized in the course of a radical metamorphosis.

In this conjuncture, ideology claims to give an absoluteness to "scientificity," the science which applies to the real, dividing it up, recombining it, and on this basis dispelling the possible and blocking the path. In such a context science (that is to say the specialized sciences) has no more than a *programmatic* effect. It procures certain elements for a program. But if one takes these elements for an already constituted totality, if one tries to execute the program literally, then one comes to treat the virtual object as a technical object, already available. This is an uncritical project, without self-criticism, and when carried out, this project realizes an ideology, the ideology of technocrats. The programmatic is insufficient. It becomes transformed in the course of being carried out. Only the social force which is capable of investing itself in the urban, through the course of a long political experience, can take on the responsibility for realizing a program for urban society. In return, the science of the city brings a theoretical and critical foundation, a positive base, to that perspective. Utopia controlled by dialectical reason provides a safety barrier to fictions of scientificity, to imagination without direction. This foundation and basis keeps thought from losing itself in pure program as well. The dialectical movement presents itself here as a relation between science and political power, as a dialogue which actualizes the relations of "theory–practice" and "positivity–critical negativity."

Like science, *art* is necessary but not sufficient. It brings its own long meditation on life as drama and pleasure to the realization of urban society. Above all, it restores the sense of the creative work. It gives multiple figures of *appropriated* time and space: not passively endured, not accepted with resignation, but transformed into creation. Music reveals the appropriation of time, painting and sculpture the appropriation of space. If the sciences discover partial determinisms, art (as well as philosophy) shows how a totality is born out of partial determinisms. It is incumbent upon the only social force capable of realizing urban society to unite effectively and efficiently (in "synthesis") art, technique, and knowledge. Art and the history of art, as much as the science of the city, should enter into reflections on the urban in order to put its images into effect. This meditation geared toward realization in action will thus be both utopian and realistic and will overcome the distinction between the two. One can even assert that the greatest utopianism will become one with the optimum realism.

Among the contradictions that characterize our epoch we encounter those (particularly harsh) ones between the realities of society and the achievements of civilization inscribed there. On the one hand genocide, on the other the capacities (medical and others) that can save a child or prolong life. One of the last, but certainly not the least, of those contradictions comes to light precisely here: between the *socialization of society* and *general segregation.* There are many others, for example the contradiction between being called a *revolutionary* and being attached to an outdated productivist rationalism. The individual does not disappear in the midst of the social effects caused by the pressures of the masses, but is instead affirmed. Certain *rights* come to light. They enter into customs or prescriptions more or less followed by actions. We know how these concrete "rights" come to complete the abstract rights of man and citizen that were inscribed on the front of buildings by democracy in its revolutionary beginnings: the rights of age and sex (of women, children, and the elderly); rights of condition (the proletarian, the peasant); rights to education and instruction; rights to work, to culture, to leisure, to health, and to housing. Despite, and even through, the terrible destruction, the world wars, the threats, the nuclear terror. The pressure of the working class has remained necessary (but not sufficient) for the recognition of these rights, for them to become part of custom, for their inscription in law, even if incompletely.

Rather oddly, the *right to nature* (to the countryside and "pure nature") has come into social practice in the past few years in the form of *leisure activities.* It has advanced by way of the protests that have become commonplace against noise, against fatigue, against the "concentrationary" universe of the cities (as the city decays and explodes). A strange course of events, we would say. Nature gains exchange value and becomes merchandise. It is bought and sold. The various leisure activities that are commercialized, industrialized, institutionalized, destroy the "natural" which is now to be trafficked in. What one calls "nature" becomes the ghetto of leisure, a separate place of pleasure and a refuge for "creativity." But urban people bring the urban along with them, even if they do not bring urbanity! Once they colonize it, the countryside loses its own qualities, those properties and charms of rural life. The urban ravages the countryside; this urbanized countryside dispossesses and replaces the rural: an extreme case of the misery of the inhabitants, of the habitat, and of inhabitation. Are not the right to nature and the right to the countryside self-destroying?

In the face of this right, or pseudoright, the *right to the city* becomes a rallying cry, a demand. This right takes a slow and tortuous route through unexpected detours — through nostalgia, tourism, the return to the heart of historic cities, the requirements of existing centers or of newly created ones. The demand for nature, the desire to enjoy it, diverts attention from the right to the city. This last demand expresses itself only indirectly, as a tendency to flee the deteriorating and unrenovated city, to flee the alienated form of "urban life" rather than the forms which have yet to "really" exist. The need and "right" to nature frustrate the right to the city without altogether escaping it. (This does not mean that one should not preserve vast "natural" spaces in the face of the spread of the exploded city.)

The *right to the city* cannot be considered a simple visiting right or a return to the traditional city. It can only be formulated as the *right to urban life,* in a transformed and renewed form. It scarcely matters if the urban fabric encroaches upon the countryside and what remains of country life. No matter, as long as the "urban," the place of encounter, the prime value of exchange, inscribed in space and time as the highest

value, finds its morphological basis and practical and sensual realization. This requires an integral theory of the city and of urban society, using all the resources of science and art. Only the working class can become its agent, the bearer or social support of this achievement. Here still, as it did a century ago, the very existence of the working class negates and contests the strategy of segregation directed against it. As it did a century ago, although under new conditions, it unifies the interests of society as a whole (going beyond the immediate and superficial), and especially the interests of those who *inhabit*. The superrich and the new bourgeois aristocracy (who can deny it?) no longer inhabit. They go from palace to palace, from chateau to chateau, they manage a fleet or a country from their yacht. They are everywhere and nowhere. This is one reason that they are so fascinating to people who are steeped in the everyday. They transcend the quotidian. They own nature and let their henchmen produce culture. Is it really necessary to describe at length the conditions of the young, of students and intellectuals, of the armies of workers with or without white collars, of provincials, of the colonized and semicolonized of every sort—all those who endure a well-organized existence? Is it necessary to spell out the pathetic misery without tragedy of the inhabitants of the working-class suburbs, of those who live in residential ghettos, in the decaying centers of the traditional cities and in the misguided proliferations far from these centers? One has merely to open one's eyes in order to understand the daily life of a person who runs from his housing to a near or distant station, to a crowded subway, to the office or factory, only to take the same route back in the evening in order to recover the strength to start all over in the morning. The portrait of this general misery would not be complete without the image of the "compensations" that conceal it and become means of its escape and evasion.

1967

In an exhibition at the Museum of Modern Art in New York in 1972 entitled "Italy: the New Domestic Landscape," curator Emilio Ambasz brought to international attention the achievements of Italian product design in the preceding decades, seeking to explain how such a small and belatedly industrialized country had come to play so large a role in design developments. The economic boom of the 1950s had vastly expanded the market for domestic goods. As elsewhere, the new class of design-conscious Italian consumers identified the goods afforded by an advancing democratic capitalism with an enlightened aesthetic of "good form" and a perennial process of *aggiornamento*—keeping up with new tendencies on the international scene. At the same time, materialistic aspirations to *la dolce vita* stirred a desire to recapture the bourgeois traditions of style and craftsmanship repressed by modernism. The result was a vigorous and ultimately fertile debate. In the 1950s and 1960s, out of the "land of good design," as Alessandro Mendini put it in the catalogue, came a succession of high-quality and varied commercial products combining functionality with stylishness. Associated with the progressive entrepreneurship of Adriano Olivetti and other firms, they bore the signatures of talented designers like Marcello Nizzoli, Franco Albini, Gio Ponti, Gae Aulenti, and Marco Zanuso, and extended from the antidesign experimentalism of Ettore Sottsass, Jr., to the ergonomic research of a designer like Enzo Mari.

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By the mid-1960s, however, the fetishization of the designed object, its complicity with an elite taste, and the absence of broader social aims provoked a radical critique by designers and architects seeking not just to reform the profession but to challenge its very premises. In this context, in November 1966, some young architects in Florence organized an exhibition entitled "Superarchitecture": "Superarchitecture is the architecture of superproduction, of superconsumption, of superinduction of consumption, of the supermarket, of the superman, of the super gasoline. Superarchitecture accepts the logic of production and of consumption, operating upon it with an action of demystification." Out of this critique came the formation of two groups, **Superstudio** and Archizoom, and a little later others like Group 9999 and the Turinese Gruppo Strum. Inspired by Archigram in England and by the Viennese avant-garde, the Italian radicals focused more on the consumer object and the domestic environment. In late 1967 Superstudio's founders, Adolfo Natalini and Cristiano Toraldo di Francia (subsequently joined by Alessandro Magris, Roberto Magris, and Gian Piero Frassinelli), wrote the manifesto that follows, calling for an "evasive"—subversive—design practice "assuming poetry and the irrational as its method, and trying to institutionalize continuous evasion of everyday dreariness created by the equivocations of rationalism and functionality."

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In the years after 1968, Superstudio relinquished product design entirely, acknowledging that, as Toraldo di Francia put it, "to continue designing furniture, objects, and similar household decorations was no solution to the problems of living, nor to those of life; even less was it serving to save the soul." The group graphically allegorized an abstract technological environment in collision with atavistic nature. Their Continuous Monument of 1969, an encroaching universal grid, portrayed "a form of architecture emerging all at once from a single continuous environment: the world rendered uniform by technology, culture, and all the other inevitable forms of imperialism." With this they pushed to dystopian limits the unified and rational design methodology idealistically envisaged after the Second World War in Ernesto Rogers's maxim "from a spoon to a city."

77–79

Written in 1967. Published as "Design d'invenzione e design d'evasione: Superstudio," in Domus *475 (6 June 1969), p. 28. Republished in "Superstudio & Radicals,"* Japan Interior Design *(1982), pp. 228–30. Courtesy of Adolfo Natalini.*

Invention Design and Evasion Design
Superstudio

It would appear that the fact that the world is round and rotates is now beyond discussion.

There is still room for discussion, however, about how we are to live on it. And particularly on whether everything should be invented all over again every day or whether on the other hand it is enough to cling tightly to the appropriate gravity straps against the centrifugal force and keep on breathing.

And this is possible, or obligatory rather, for those who live in the cubic boxes about which so much has already been said. In other words for the lucky inhabitants and owners of block apartments, small villas, and civilized housing in general, and then, by natural kinship, for all the owners and users of refrigerated portions of established truth and the commonplace . . .

If on the contrary we face the problem of making our reckonings with reality at every moment, if we face the problem of living creatively, living truly that is, regular breathing is no longer enough and we must invent on each occasion the utensils for "doing things" and find the answers to new queries.

Only in this way, by taking a creative attitude, can we avoid the prefabricated answers imposed by the big monopolies of truth.

But contestation of the system, rejection of the products imposed by the consumer industry as the only true answer at this particular moment of history, will not be achieved through a total rejection of the products and the activities connected with them. Salvation does not lie in a primitive Arcadia or even in Alice's Wonderland. Arcadia and Wonderland, or the self-sufficient civilization of craftsmanship (or even the nonacquisitive one of the Hippies) and the hyperconsumer society of Supermarkets and Carnaby Street: on one hand a magic world in which the utensil is the object of a rite, on the other a code of liturgical regulations governing nonexistent objects.

But seeing that "you cannot go backward," and that the process is irreversible (and revivals confirm this), and seeing that the system offers us transparent or nonexistent objects (the sales system sells only one product: itself), and seeing also that we need something in order to live (utensils, signs, totems . . .), we put the process of design back into motion. If, then, the problem is one of living creatively and finding the true answers to our problems, of avoiding the prefabricated answers imposed by the great monopolies of truth (the pitfalls of the affluent society), we then come to propose "invention design" as an alternative or variant to "product design" or "industrial design" as currently conceived. But any valid design is always invention design (and in this connection think back to the meaning of the terms "design" and "invention" in Renaissance tracts).

The term to use, then, may well be "evasion design."

Evasion design, punning and easy overtones of political disengagement apart, is the activity of planning and operating in the field of industrial production assuming poetry and the irrational as its method, and trying to institutionalize continuous evasion of everyday dreariness created by the equivocations of rationalism and functionality.

Every object has a practical function and a contemplative one: and it is the latter that evasion design is seeking to potentiate. Thus there is an end to the nineteenth-century myths of reason as the explanation of everything, the thousand variations on

the theme of the four-legged chair, aerodynamic shapes, and the sterilization of dreams.

We need in fact to begin all over again: the data are those of experience and those of myth, those of technology and consumer demand, those of repressed desires.

The important thing is to keep on asserting ourselves, to go on making our mark on things. The important thing is to "be there." Perhaps one of the most disturbing manifestations of our time is the sit-in, the pacific protest meeting at which everyone sits on the ground.

What we want to do is lay the foundations for an existence this is one long protest: a "be-in."

This means involving all the users of our products and creating an operative area.

Such total involvement may be achieved in two ways: by supplying products that are poetically functional or by supplying patterns of behavior.

In the first case you supply multisignificant (ambiguous) products, objects of universal use, and each user puts them to the use he thinks fit.

In the second case you supply the rules of a game to be played with all kinds of objects, or containers that can be filled with all kinds of things.

To switch our attention to interior space, this may become a genuine space of involvement (a stage for a continuous performance or, in other words, a place for happenings, a place for the be-in) by the agency of the design products we place in it.

While on this subject we should clarify the fact that this operation belongs to the first of the modes of operation to which we referred earlier: we thus put on the market poetically functional objects in containers of any kind, even if they are indifferent or degraded like those supplied by the building trade today. It is obvious that we can see this only as a "rescue" operation: it is not the total operation to which we aspire (supplying and shaping the whole human environment).

It is only a way of taking action "here and now" in an existing situation. Evasion design, then, to evade everyday dreariness, or rather evasion design to make it possible to live with everyday dreariness.

All this is because: apart from those fortunate mortals who can afford to build their own "house" (ideally in their own image and likeness), and those lucky enough to find one in which it is possible to live even without putting paintings up on the walls, those who live in "residential blocks" usually live in a room, a cubic box without memories, with vague indications of top and bottom, entrance and exit, a Euclidean parallelepiped painted white or distempered in bright colors, washable or no, but always without surprises and without hope.

We should remember however that "it is poetry that makes you live," and that life is lived not only in hermetically sealed boxes made for small parallel lives, but also in the city and in cars, in the supermarkets, in the cinemas, on the motorways. . . . And an object may be an adventure in space, or an object of worship and veneration, and become a shining intersection point of relationships . . .

Thus evasion design aims at working on the theory of introducing foreign bodies into the system: objects with the greatest possible number of sensory properties (chromatic, tactile, etc.), charged with symbolism, and images with the aim of attracting attention, or arousing interest, of serving as a demonstration and inspiring action and behavior.

Objects in short that succeed in modifying the container-unit and involving it totally

together with its occupier.

We shall build on the ruins of our own wars and those of others, on the smoking ruins of private and public guerilla warfare, on the clouds of numerous mushrooms, atomic ones and those of peyote.

We shall construct huge and indestructible objects thoroughly shockproof because as flexible and manageable as the willow branches in Japanese prints.

We shall have soft pyramids and looking-glass furniture and rooms for the contemplation of everyday poetry.

We shall have microscopes and kaleidoscopes to investigate the mysteries of stupidity and boredom.

We shall make journeys with airline itineraries around the world, tightening only the seat belts of the intelligence, but without fear, and we shall construct with a single everyday purpose: living with poetry.

With no time for analysis or denunciation, with little time for bitter ironies and cruel tricks of the intellect: we wish to rediscover the heart and raise it on high. *Sursum corda.*

We shall no longer do anything except for love and in hope and we shall surely die of ingenuity, happy.

Our problem is to go on producing objects big brightly colored cumbersome useful and full of surprises, to live with them and play with them together and always find ourselves tripping over them till we get to the point of kicking them and throwing them out, or else sitting down on them or putting our coffee cups on them, but it will not in any way be possible to ignore them.

They will exorcise our indifference.

Things that can modify time and space and serve as signposts for a life that is going ahead.

1968

In an article entitled "A Significance for A&P Parking Lots, or Learning from Las Vegas" published in *Architectural Forum* in March 1968 and written by **Robert Venturi** and **Denise Scott Brown**, the incipient populism of Venturi's earlier
389–91
Complexity and Contradiction in Architecture came to fruition. The authors would test their ideas in a design studio and field study conducted with Steven Izenour at Yale School of Architecture that fall, publishing it in 1972 in book form as *Learning from Las Vegas,* along with two other chapters: one a more generalized argument derived from the first, entitled "Ugly and Ordinary Architecture, or the Decorated Shed," the other a catalogue of buildings designed by the Venturi firm —"Some Decorated Sheds"—from 1965 on. The following article by Scott Brown represents a first formulation of the decorated shed thesis.

In the transition from "complexity and contradiction" to "ugly and ordinary," the aesthetic criteria of Venturi's earlier book gave way to an empirical sociology and semiotics (still in a purely formal context) derived from current American social planning and communications theory. The reliance on ideas developed by
442–45
Herbert Gans, Melvin Webber, Paul Davidoff, and others reflected the inputs of Scott Brown, a South African educated at the Architectural Association in London in the early 1950s and then in urban planning at the University of Pennsylvania under Gans. Scott Brown brought to the husband-wife team (who began collaborating as early as 1960) not only the perspective of social science, but
240–41
also her firsthand experience of New Brutalist "socioplastics" and Independent
237–39
Group ideas, the latter having anticipated the American Pop movement by several years. The "almost all right" of Main Street, U.S.A., suggested in *Complexity and Contradiction*—"The main justification for honky-tonk elements in architecture is their very existence," Venturi had written—now became a didactic "judgment-deferred" analysis of the vernacular in places like Las Vegas and Levittown, and ultimately confirmed for its vitality and diversity. In an exchange with the Venturis published in 1971 in *Casabella,* Kenneth Frampton, one of the most vociferous critics of their position, argued that the would-be populism of the Strip was no more than the manipulation of the American consumer through advertising and other mythification: Las Vegas was created not *by* the people but, more cynically, *for* the people. Scott Brown retaliated by calling Frampton an "armchair revolutionary" with little understanding of American culture.

The second part of *Las Vegas* was focused on a semiotic distinction between the duck and the decorated shed—the building as a symbol in itself through its formal or spatial features as opposed to the building as a structure to which symbolism was applied. The authors felt the latter was more honest. Scott Brown later recalled how the concept evolved: "['On Ducks and Decoration'] was written while we were conducting the Las Vegas studio at Yale. Seeing modestly decorated Victorian warehouses through the train window on our weekly trip to New Haven; working in [Paul Rudolph's] Art and Architecture Building there; analyzing Las Vegas strip signs and reading *God's Own Junkyard* by Peter Blake, prescribed for the studio—one day all joined to form the now famous (or infamous) argument on the unadmitted symbolism of architectural form. I wrote the first draft . . . it was rewritten and extended in Part 2 of *Learning from Las Vegas.* In this early formulation, 'duck' is used metaphorically for the first time, but we refer to 'decoration' not 'decorated shed'; that idea came later."

The Venturis' validation of popular culture and its "forgotten symbolism" resulted in the advent of a Pop architecture in which high architecture emulated low. It also took inspiration from Andy Warhol's soup cans, Ed Ruscha's parking lots, and Tom Wolfe's *Kandy-Kolored Tangerine-Flake Streamline Baby.*

From Architecture Canada, *October 1968, pp. 48–49. Courtesy of the authors.*

On Ducks and Decoration

Denise Scott Brown and Robert Venturi

Loos equated decoration with sin; Perret believed it always hid a fault in construction. International stylists believed it was valid as the *joie d'esprit* of the individual craftsman as he worked by hand on the great cathedrals sculpting to the glory of God, but that in a machine age the I-thou relation with materials and construction is lost and so is the point of decoration; the same *joie d'esprit* should now, it was felt, be expressed through the beautiful and precise use of machine-made building elements and the eloquent spaces of the building itself. The whole building is the decoration.

This may have been literally and ironically more true than was intended. Contemporary painting and sculpture is now generally accepted as a formal source of early modern architecture—whole buildings from this period, in fact, resembled constructivist sculptures or cubist paintings. But this happened on an unconscious level. Architects such as Le Corbusier lived their connection to the arts intensely and it came through in their work.

A vocabulary of forms whether consciously possessed or not is probably as important in the synthesizing process which gets from functional requirements to a building as is a load of bricks. Whether you call it "composition" or "plastic organization" you have to have a philosophy about it. Your philosophy may be more or less useful depending on how well it helps you relate forms to requirements.

Later architects have taken too literally the functionalist dictum and allowed the formal vocabulary (still unadmitted) to stultify. We don't admit the importance of having a philosophy about forms, because a good building should arise like Venus purely from the functional requirements. But since this is impossible, a repertoire of old hand-me-downs, from Le Corbusier, Mies van der Rohe, or Lou Kahn slips in unnoticed while the pieties of each on antiformalism are mouthed.

Because applied decoration is still taboo the whole building is still the decoration. Only now, artists like Le Corbusier, sensitive to what they are denying, are not involved, so the formal vocabularies are dull, unsuited, and unrevised for today's needs. The more interesting the attempts of our best, most avant-garde architects at mannered complexity supposedly derived from structure and program, the more uninteresting their buildings become: they may heave themselves up on needless *pilotis,* corset themselves in rusted iron stays, zap out and up in plan and section ten stories, making twenty apartments with "bad space," or welcome in a heedless multitude to an unused piazza. They do these deeply distorting things for the sake of appearance, but they have no "decoration."

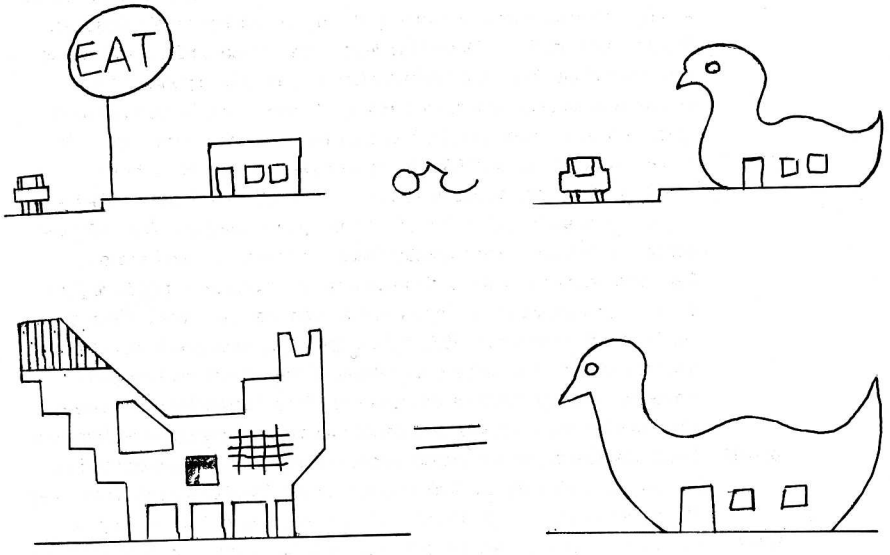
We believe a new interest in the architecture of communication involving symbolism and mixed media will lead us to reevaluate the eclectic and picturesque styles of the last century, to reappraise our own commercial architecture—pop architecture, if you wish—and finally to face the question of decoration. We have distinguished in a previous article[1] between two types of heraldry in the commercial environment: the sign which *is* the building (for example, the roadside duck, first brought to fame in Peter Blake's book) and the sign which *fronts* the building. The first distorts the less important inside function of drawing you in. The second, applied to the building or separated from it with the parking lot between, allows the modest eating function to take place without distortion in a modest building, right for it, and permits the symbolic function its own leeway as well—they need not coincide and it is probably cheaper and

easier if they don't.

Our thesis is that most architects' buildings today are ducks: buildings where an expressive aim has distorted the whole beyond the limits of economy and convenience; and that this, although an unadmitted one, is a kind of decoration, and a wrong and costly one at that. We'd rather see the need admitted and the decoration applied where needed, not in the way the Victorians did it but to suit our time, as easily as the billboard is pasted on its superstructure; with the building it is applied to allow it to go its own conventional way, no more distorted than are the functional wind bracing and catwalks of the superstructure. This is an easier, cheaper, more direct, and basically more honest approach to the question of decoration; it permits us to get on with the task of making conventional buildings conventionally and to deal with their symbolic needs with a lighter, defter touch. It may lead us to reevaluate Ruskin's horrifying statement, "architecture is the decoration of structure." But add to it Pugin's warning: it is all right to decorate construction, but never construct decoration.[2]

Notes

1. "Learning from Las Vegas, or a Significance for A & P Parking Lots," *Architectural Forum,* March 1968.
2. We are grateful to Mr. Alan Lapidus, A.I. A., for this indirect quotation.



Motion of May 15
Strike Committee, Ecole des Beaux-Arts

Wednesday, May 15, 12:00

Why are we prolonging the struggle? What are we fighting against? We are fighting against the class-based University; we want to organize the struggle against all its aspects:

1. We oppose the social discrimination that operates throughout the course of study, from the primary to the higher grades, to the disadvantage of working-class children and poor peasants.

We want to fight against the system of examinations and competitions, principal means of this discrimination.

2. We oppose the content of the teaching and the pedagogical forms in which it is disseminated. Everything is organized so as to ensure that the products of the system acquire neither critical consciousness nor knowledge of social and economic realities.

3. We oppose the role society expects intellectuals to play: to be watchdogs of the system of economic production, to be technocratic managers, to see to it that each person feels very happy with his lot, especially when he is being exploited.

What do these criticisms mean for the school of architecture? For the school of painting and sculpture? It is certainly up to the Commissions to define it precisely, but we can already do so as far as architecture is concerned:

- We want to contest the domination of the curriculum by the profession through the Conseil de l'Ordre and other corporate bodies. We are against the Masters system as a pedagogical method. We are against the conformist ideology disseminated by the system. The teaching of architecture must not solely consist of the repetition of what the master does, to the point where the student is finally a carbon copy.
- We want to fight against the conditions of architectural production, which in fact subordinate it to the interests of public or private developers. How many architects have agreed to carry out large or small Sarcelles? How many architects take into account in the notes they keep on their commissions the conditions of information, hygiene, and worker security on the construction site; and do it in such a way that any developer heeds their appeals? Everyone knows that there are three deaths a day in France in the construction industry.

- We want to contest the content of a curriculum that is particularly conservative, particularly irrational and unscientific, in which impressions and personal habits continue to prevail over objective knowledge.

The ideology of the prix de Rome is still alive.

In short we want to take stock of the real relations between the school and society; we want to fight against its class character.

We have to realize that we cannot fight this fight alone. We must not harbor illusions that the university will be able to establish within its faculties the seeds of real autonomy with respect to bourgeois society as a whole.

The university must fight side by side with the workers, who are the principal

victims of the social discrimination carried out by the system of instruction. The fight against the class-based university must be linked organically to the fight of all workers against the capitalist system of exploitation.

It is necessary for us to engage: to call into question the relations that now govern the profession and the curriculum:

- To challenge the present separation of the E.N.S.B.A. from university studies;
- To refuse to allow any form of preselection in admissions to the school;
- To contest the present system of examinations and competitions;
- To prepare for the workers' struggle;
- To prepare for the struggle against the reform decrees;
- To establish real links with the workers' struggle.

On all these questions, we must have the freest possible debates.

All teachers must speak out.
Organized forms of struggle must be found.

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1968

After two years of architecture study in the United States in 1958–60, **Hans Hollein** returned to his home city of Vienna where he began collaborating with his compatriot Walter Pichler. Within a short time the two had emerged as the leading figures in a group of radical architects working in that city. Hollein and Pichler jointly produced a manifesto in 1962 entitled "Absolute Architecture" in which they declared in separate statements that architecture was a ritualistic expression of pure, elemental will and sublime purposelessness. The following year a four-day exhibition of their work at the Galerie Sankt Stephan had a catalytic effect on the Viennese scene. Hollein's models and drawings conjuring up archetypal monuments, abstract urban complexes, and infrastructures of unspecified function and scale gave a potent image to an iconoclastic and visionary architecture. So did his surrealistic montage of 1964 depicting an aircraft carrier beached in the Austrian wheat fields. A first commission in 1965, for the Retti candle shop, allowed him to realize some of his ideas on a small scale. Detailed in an elegantly technical language, the shop exhibited a facade of symbolistic symmetries rendered paradoxical by an illusionist play of mirrors and metallic surfaces within.

After further collaborations with Pichler on sculptural architecture and then on pneumatic environments—a concept also pursued in the late 1960s by two younger Viennese groups, Coop Himmelblau and Haus-Rucker-Co—the paths of the two architects diverged. The following statement by Hollein appeared as an introduction to a thirty-page compendium of images which he assembled in a memorable issue of *Bau*. The pictorial selection—ranging from pneumatic and tent structures by Frei Otto and works by Claes Oldenburg, Christo, and Joseph Beuys to a portrait of revolutionary hero Che Guevara—is a vivid montage of 1960s aesthetic counterculture. Hollein's statement reveals his continuing expansion of the concept of architecture, not only to embrace other media, but to transcend its own physicality into a comprehensive and invisible technical
86–92 environment. Buckminster Fuller's message is explicit here, as is that of Marshall McLuhan. The latter had written (in *Understanding Media*, 1964), "During the mechanical ages we had extended our bodies in space. Today . . . we have extended our central nervous system itself in a global embrace, abolishing both space and time as far as our planet is concerned. Rapidly we approach the final phase of the extensions of man—the technological simulation of consciousness."

From the building to the book to the media environment: with his pronouncement of the end of the Gutenberg galaxy McLuhan gave one more turn of the screw to Victor Hugo's *ceci tuera cela*. Hollein's rituals of a "cultic architecture" looked back to the future via the technological tribalism of the global
402–7 village. Like Arata Isozaki's work in Japan and other neo-avant-garde
365–69 manifestations around the world in these years—including Archigram in England
437–41 and Superstudio in Italy, with whom there were close contacts—the Viennese movement inspired by Hollein belongs to a current of technological prophecy directly responding to the cultural crisis of postindustrial society. For a rich compilation of the work of the Vienna architects, including poetic delineators like Friedrich St. Florian and Raimund Abraham and experimental groups like Coop Himmelblau, whose interventions at this date recall Frederick Kiesler's multimedia explorations and the "happenings" on the American art scene, see a recent book by one of the movement's progenitors: Günther Feuerstein, *Visionäre Architektur Wien 1958/1988* (1988).

As published under the title "Alles ist Architektur" in Bau *1/2 (1968), p. 2. Revised in English in the catalogue* Hollein *(Chicago: Richard Feigen Gallery, 1969). Courtesy of the author.*

Everything Is Architecture
Hans Hollein

Limited and traditional definitions of architecture and its means have lost their validity. Today the environment as a whole is the goal of our activities—and all the media of its determination: TV or artificial climate, transportation or clothing, telecommunication or shelter.

The extension of the human sphere and the means of its determination go far beyond a built statement. Today everything becomes architecture. "Architecture" is just one of many means, is just one possibility.

Man creates artificial conditions. This is Architecture. Physically and psychically man repeats, transforms, expands his physical and psychical sphere. He determines "environment" in its widest sense.

According to his needs and wishes he uses the means necessary to satisfy these needs and to fulfill these dreams. He expands his body and his mind. He communicates.

Architecture is a medium of communication.

Man is both—self-centered individual and part of a community. This determines his behavior. From a primitive being, he has continuously expanded himself by means of media which were thus themselves expanded.

Man has a brain. His senses are the basis for perception of the surrounding world. The means for the definition, for the establishment of a (still desired) world are based on the extension of these senses.

These are the media of architecture—architecture in the broadest sense.

To be more specific, one could formulate the following roles and definitions for the concept "Architecture":

Architecture is cultic; it is mark, symbol, sign, expression.

Architecture is control of bodily heat—protective shelter.

Architecture is determination—establishment—of space, environment.

Architecture is conditioning of a psychological state.

For thousands of years, artificial transformation and determination of man's world, as well as sheltering from weather and climate, was accomplished by means of *building*. The *building* was the essential manifestation and expression of man. Building was understood as the creation of a three-dimensional image of the necessary as spatial definition, protective shell, mechanism and instrument, psychic means and symbol. The development of science and technology, as well as changing society and its needs and demands, has confronted us with entirely different realities. Other and new media of environmental determination emerge.

Beyond technical improvements in the usual principles, and developments in physical "building materials" through new materials and methods, intangible means for spatial determination will also be developed. Numerous tasks and problems will continue to be solved traditionally, through building, through "architecture." Yet for many questions is the answer still "Architecture" as it has been understood, or are better media not available to us?

Architects have something to learn in this respect from the development of military strategy. Had this science been subject to the same inertness as architecture and its consumers, we would still be building fortification walls and towers. In contrast, military planning left behind its connection to building to avail itself of new possibilities for satisfying the demands placed upon it.

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ALLES IST ARCHITEKTUR

Otto Wohl, 1968, Materialaktion

Obviously it no longer occurs to anyone to wall-in sewage canals or erect astronomical instruments of stone (Jaipur). New communications media like telephone, radio, TV, etc. are of far more import. Today a museum or a school can be replaced by a TV set. Architects must cease to think only in terms of *buildings.*

There is a change as to the importance of "meaning" and "effect." Architecture affects. The way I take possession of an object, how I use it, becomes important. A building can become entirely information—its message might be experienced through informational media (press, TV, etc.). In fact it is of almost no importance whether, for example, the Acropolis or the Pyramids exist in physical reality, as most people are aware of them through other media anyway and not through an experience of their own. Indeed, their importance—the role they play—is based on this effect of information.

Thus a building might be *simulated* only.

An early example of the extension of buildings through media of communication is the telephone booth—a building of minimal size extended into global dimensions. Environments of this kind more directly related to the human body and even more concentrated in form are, for example, the helmets of jet pilots who, through telecommunication, expand their senses and bring vast areas into direct relation with themselves. Toward a synthesis and to an extreme formulation of a contemporary architecture leads the development of space capsules and space suits. Here is a "house"—far more perfect than any building—with a complete control of bodily functions, provision of food and disposal of waste, coupled with a maximum of mobility.

These far-developed physical possibilities lead us to think about psychic possibilities of determinations of environments. After shedding the need of any necessity of a physical shelter at all, a new freedom can be sensed. Man will now finally be the center of the creation of an individual environment.

The extension of the media of architecture beyond pure tectonic building and its derivations first led to experiments with new structures and materials, especially in railroad construction. The demand to change and transport our "environment" as quickly and easily as possible forced a first consideration of a broad range of materials and possibilities—of means that have been used in other fields for ages. Thus we have today "sewn" architecture, as we have also "inflatable" architecture. All these, however, are still material means, still "building materials."

Little consequent experimentation has been undertaken to use nonmaterial means (like light, temperature, or smell) to determine an environment, to determine space. As the use of already existing methods has vast areas of application, so could the use of the laser (hologram) lead to totally new determinations and experiences. Finally, the purposeful use of chemicals and drugs to control body temperature and body functions as well as to create artificial environments has barely started. Architects have to stop thinking in terms of buildings only.

Built and physical architecture, freed from the technological limitations of the past, will more intensely work with spatial qualities as well as with psychological ones. The process of "erection" will get a new meaning, spaces will more consciously have haptic, optic, and acoustic properties, and contain informational effects while directly expressing emotional needs.

A true architecture of our time will have to redefine itself and expand its means. Many areas outside traditional building will enter the realm of architecture, as architecture and "architects" will have to enter new fields.

All are architects. Everything is architecture.